Gulstonian Lectures
ON THE
NATURE OF FEVER.

Delivered at the Royal College of Physicians,

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LECTURE II.

MR. PRESIDENT AND GENTLEMEN,—Let me recall to your memory the point we have now reached in our discussion of the nature of fever. Perhaps I can best do so by reciting the conclusions arrived at in 1875 by Dr. Burdon Sanderson in the important memoir I have already referred to. These conclusions will not only serve to indicate the first stage of our argument, they will be useful as a starting-point for the considerations that are yet to come. "Two possibilities [as to the origin of fever] are open to us. One is that fever originates in disorder of the nervous centres, that by means of the influence of the nervous system on the systemic functions the liberation of heat at the surface of the body is controlled or restrained, so that 'by retention' the temperature rises, and finally that the increased temperature so produced acts on the living substance of the body so as to disorder its nutrition. The other alternative is that fever originates in the living tissues, that it is from first to last a disorder of protoplasm, and that all the systemic disturbances are secondary..... The facts and considerations we have had before us are, I think, sufficient to justify the definitive rejection of the first hypothesis in all its forms; for, on the one hand, we have seen that no disorder of the systemic functions or of the nervous centres which preside over them is capable of inducing a state which can be identified with febrile pyrexia; and on the other, that it is possible for such a state to originate and persist in the organism after the influence of the central nervous system has been withdrawn from the tissues by the severance of the spinal cord. We are therefore at liberty to adopt the tissue origin of fever as the basis on which we hope *eventually* to construct an explanation of the process. But if we attempt to do so *now*, we shall at once find ourselves in face of an unsolved physiological problem—that of the normal relation between temperature and thermogenesis,—for the elucidation of which it is necessary to investigate much more completely than has yet been found possible the influence of temperature variations on those chemical processes in living tissue with which thermogenesis is necessarily associated."

As these sentences are somewhat condensed in expression a word or two of comment may prevent misunderstanding. In the first place, the "disorder of the nervous centres," which is without hesitation condemned as inadequate to explain the genesis of fever, means primarily disorder of that part of the nervous system which governs the circulation and the respiration—"the systemic functions," as they are called. This is clear from the whole course of the previous argument. The apparently sweeping rejection of the hypothesis of nervous disorder "in all its forms" is really levelled at the hypothesis of merely vaso-motor disorder, which is associated with the names of Traube and Marey; hence if we are led hereafter to consider a theory involving another kind of nervous disorder we shall not necessarily come under Dr. Sanderson's condemnation. In the next place, since 1875 something has been done to supply the missing physiological data for the establishment of the tissue origin of fever, and something more has been done on other lines which help us to get round the outstanding problems. Moreover, as I explained in my last lecture, we have had an authoritative re-examination and re-determination of some of the points in regard to febrile thermogenesis which Dr. Sanderson was inclined to regard as doubtful or not proven in the earlier experiments of Leyden and Senator, with the result of showing that though the methods were imperfect quantitatively the deductions from them were qualitatively correct. Thirdly, we have had from various quarters—England, France, Germany, and America—valuable researches on the relation of the body temperature and the body heat to certain parts of the central nervous system, researches which were not before Dr. Sanderson when he wrote, and which open up new lines of thought regarding the mechanism of fever. Lastly, some light has been thrown on the relation of the nervous system in general to the "chemical processes in living tissue with which thermogenesis is necessarily connected." All these gains to knowledge enable us to advance further towards a true theory of fever than was thought twelve years ago to be possible, though the "unsolved physiological problem of the normal relation of temperature to thermogenesis" is not yet fully solved. I shall endeavour to show the bearing of these later contributions, and so lead step by step to a theory of the "tissue origin of fever," such as Dr. Sanderson forecasts.

We start with this: that fever of necessity implies—(1) A disorder of the thermotaxic mechanism; (2) an excessive production of heat associated with excessive chemical changes in the tissues, the excessive production being more or less than that of a normal patient on full diet (perhaps oftener less than more), but more than that of a normal patient on fever diet; and (3) that the body temperature, depending on the state of the balance between production and discharge, fluctuates as one or the other is in the ascendant, and is not *per se* a true *measure* of either, or of the consumption of tissue which may be going on. An essential factor of fever being thus excessive production of heat in proportion to the food consumed, a natural question to ask is, What tissue or tissues in particular are concerned in the excessive thermogenesis? If there is increased combustion, what is the fuel, and where the furnace? To answer this question we shall first have to ask another—the licence is permitted to a Scotsman: What are the sources of heat production in health?

The older notion connected with the great name of Liebig, that the hydrocarbons of the food are the "fuel" of the body, being consumed chiefly in the lungs during respiration, while the nitrogenous constituents are mainly plastic or tissue forming, has been so effectually disproved that I need not pause to discuss it. It still reappears in popular books, and we occasionally see in the medical journals—at least on the outside pages—published analyses of particular foods which are duly parted into "heat-givers" and "flesh-formers." Now, however, to use Professor Foster's words, which I need not paraphrase, because I cannot improve on them, "we may at once affirm that the heat of the body is generated by the oxidation not of any particular substances, but of the tissues at large. Wherever metabolism of protoplasm is going on heat is being set free. ..... In growth and in repair, in the deposition of new material, in the transformation of lifeless pabulum into living tissue, in the constructive metabolism of the body, heat may be undoubtedly to a certain extent absorbed and rendered latent; the energy of the construction may be in part, at least, supplied by the heat present. But all this, and more than this—namely, the heat present in a potential form in the substances themselves so built up into the tissue—is lost to the tissue during its destructive metabolism; so that the whole metabolism, the whole cycle of changes from the lifeless pabulum, through the living tissue, back to the lifeless products of vital action, is eminently a source of heat."[1] But of the "tissues at large," whose oxidation is in general the immediate source of the body heat, the muscles for various sufficient reasons must be regarded as the chief contributors. In the first place, the muscles form something like one-half the whole mass of the body. When we reflect that of the other half a large portion is made up of the bony tissues, whose oxidation cannot be active, we see that the muscles must play a very large part in thermogenesis. In the next place, even when the muscles are at rest the blood which leaves them by the veins contains more carbonic acid than the blood even of the right ventricle. The mean rate of oxidation in the muscles is higher than that of the average of all the tissues, including the muscles themselves. And, lastly, muscular exercise, in which the metabolism, as evidenced by the increased excretion of carbonic acid, is markedly increased, is accompanied by a large concomitant increase of heat production. Fick makes a calculation, based on the actual observation that during severe muscular work the quantity of exhaled carbonic acid may be five times the

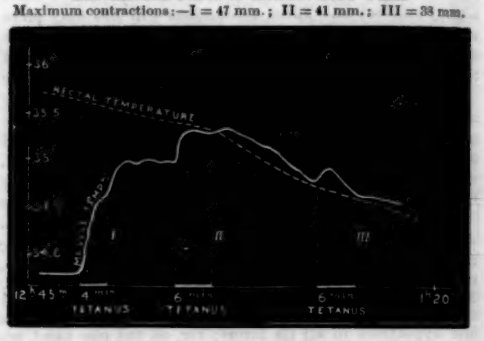
[1] Physiology, p. 461.

normal, showing that of the total energy derived from the food one-sixth goes to the work and five-sixths to the extra production of heat that accompanies it.[2] I need not enumerate all the other reasons for regarding the muscles as "the thermogenic tissues *par excellence*" those I have given are perhaps enough. Next to the muscles come the various secreting glands, and the alimentary canal in digestion. But when we remember that in fever the functional activity of these latter is to a great extent in abeyance, we shall probably not credit them with any large share in the genesis at least of febrile heat. As regards the muscles, however, they are estimated to contribute four-fifths of the body heat in health; in fever their proportion must be higher still. Briefly, then, we may say that the muscles are the chief furnaces of the body both in health and in fever. Let us consider more minutely this thermogenic function of the muscles, and the nature of its connexion with the more familiar motor function. The investigation will be worth our pains, even if it only leads us to hesitate in regarding the heat produced in muscles as a mere excretion, a waste-product like urea or carbonic acid.

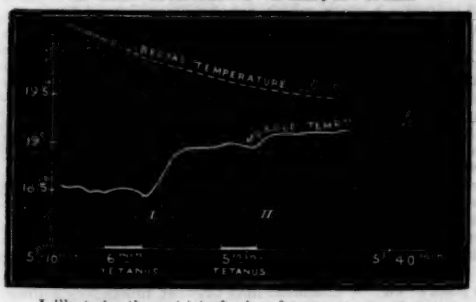
It has long been known that each contraction of a muscle is accompanied by the production of a certain modicum of heat. The earlier experimenters put forward the idea that as in a steam engine the energy supplied by the hot vapour from the boiler is given out partly as work and partly as heat, so in a muscular contraction the energy set free by a given stimulus appears partly as mechanical effect and partly as inevitably waste or degraded energy in the form of heat. It was inferred on the principles of the dynamical theory that if we should add the work done by the muscle to the mechanical equivalent of the heat wasted we should have a constant sum. The more work done in contracting the less waste energy in the form of heat, and *vice versâ*. But when exact quantitative experiments were made, such as those by Fick, Heidenhain, and many others, it was found that no such constant relation could be demonstrated. The proportion of heat to work, and the sum of these two elements, depended not on the intensity of the originating stimulus, but on various external conditions, such as the load the muscle had to bear, the extent to which it was stretched, and so on. In fact, the productive efficiency of the muscle considered as a machine was far more complex in character than that of a steam-engine. Many have been the attempts to determine more precisely the quantitative laws of this efficiency, but they all seem to proceed on the assumption that some necessary thermo-dynamic connexion exists between the function of work-producing and the function of heat-producing, between the motor and the thermogenic activities of the muscle; and it has been sought to define the nature of the assumed connexion in terms of a small number of variables. For some years I have asked myself the question: Must in *all* circumstances heat be produced when a muscle contracts? If heat is produced without contraction, may not contraction take place without heat? The older methods of investigation offered practical difficulties when I came to seek an answer to this question. The muscle experimented on was generally that of a frog or cold-blooded animal; it was removed from the body, and therefore from the influence of the circulation—in fact, it was a dying muscle rather than a living one. Moreover, the quantities of heat and the temperatures which were measured were on the whole extremely small, being reckoned in hundredths or thousandths of a degree. The limits of error in such measurements are naturally wide, and the measurements require the most sensitive thermo-electric instruments to make them apparent.

Working under the inspiring guidance of Professor Ludwig in 1881, and still possessed with the idea of the thermo-dynamic interdependence of muscle work and muscle heat, I thought it worth while to see whether the heat production of a frog's muscle still connected with the body and permeated by the circulating blood might not be great enough to admit of thermometric measurement instead of thermo-electric. Some previous experiments of Dr. Meade Smith in the same direction had made this probable. I procured very sensitive thermometers with fine-drawn bulbs, and openly graduated in tenths of a degree Centigrade. I found that one of these could be introduced beneath the skin of a pithed frog into the natural intermuscular cleft between the muscles of the thigh, so as to be surrounded on all sides by living flesh, but without injuring anything. When the sciatic nerve was suitably stimulated, the muscle contracted tetanically and the temperature rose. The rise was easily legible, amounting to four or five tenths of a degree. When several successive tetanic contractions were induced, the rise of temperature grew less and less, and at last could not be read at all, though the contraction was quite marked. In a word, the muscle was fatigued as a heat-producer before it was fatigued as a work-producer. These experiments were performed in winter on frogs collected in autumn, and I observed that as spring came on the heat production in the muscles under uniform conditions gradually grew less and less, though the tetanic curves given by them on stimulation were excellent. I attributed this to the gradual exhaustion of the frogs by their long winter fast. But the point of interest was that the heat-producing power was sooner exhausted than the work-producing power of the muscles. Fatigue from repeated stimulation, exhaustion from long abstinence, each appeared to differentiate the

TEMPERATURE CURVE OF MUSCLE: BODY WARM.
Maximum contractions:—I = 47 mm.; II = 41 mm.; III = 38 mm.



TEMPERATURE CURVE OF MUSCLE: BODY COLD.
Maximum contractions:—I' = 40 mm.; II' = 38 mm.



I illustrates the post-tetanic rise of temperature, owing to the flushing of the muscle with warmer blood.
II illustrates the effect of fatigue in reducing the thermogenesis; the tetanic rise is diminished; the post-tetanic rise is almost absent, the blood being scarcely warmer than the muscle.
III illustrates the post-tetanic fall when the blood is cooler than the muscle.

thermogenic function from the motor function. I next proceeded to inquire whether in warm-blooded animals it might not also be possible to separate the two functions, to show that, though generally called into play together, they were capable of being performed independently. Using dogs, guinea-pigs, and rabbits, narcotised with chloral in all cases, I made a number of experiments on the fatigue of the thermogenic function, and almost accidentally discovered another method of practically abolishing it while the motor function remained nearly, if not quite, intact. By controlling the temperature of the whole animal, including that of the muscle under observation, I found that I could vary within wide limits the relation between the work and the heat produced. It is not necessary to give the experimental details at length. Suffice it to say that by enclosing the profoundly narcotised animal in a box with double walls, through which water of any desired temperature could be made to circulate, I was able to raise or lower its body temperature at will. Arti-

[2] This and other facts recited in this lecture I owe to the kindness of Dr. A. Sheridan Lea.

ficial respiration was maintained for hours together. The temperature of the blood in the aorta, in the rectum, and in the mass of the calf muscles could be ascertained from minute to minute by means of fine thermometers; the mechanical work done by the muscles of the calf could be estimated by the motion of a cord fastened to the Achilles tendon; and, lastly, the sciatic nerve, severed from the spine, could be electrically stimulated. The arrangements were elaborate, but after much experience and many failures I succeeded in getting some fairly satisfactory results.

The experiments were made in triads. First, say, at ordinary temperature, the reading of the thermometers showing that all was steady, a tetanic contraction would be set up, and the muscle temperature read at minute intervals, before, during, and after the stimulation. The whole arrangement would then be cooled down, say, to 16° or 18° C. (say 61° or 64° F.) When things were once more steady, a tetanus of the calf muscles was again induced, the muscle temperature being read at short intervals as before. Once more the temperature of the animal as a whole was raised back to the original point, and the experiment repeated. By varying the stimulus the extent of the mechanical contraction was kept as nearly as possible the same in all three experiments. Usually such a triad of experiments lasted the whole day, as the processes of cooling down and warming up occupied several hours each. In some cases I varied the procedure by first cooling the animal, then warming it, and lastly cooling it again; but it was difficult to get very satisfactory results by this method, which was very exhausting to the observer, as well as to the animal. I need hardly say that the latter was never suffered to regain consciousness. The general character of the thermal results may be gathered from the rough diagrams I present. (See *ante*.) Take first an experiment at about 35° C. As soon as the muscle contracts, its temperature rises, and continues to rise for some time after the contraction ceases. The animal is then cooled to, say, 19° C. On stimulation the muscle contracts forcibly, but the rise of temperature is trifling or absent. On rewarming the animal to something like its first temperature, we once more restore the rise of temperature on contraction. There are several other points of interest exhibited in these curves, but I do not propose to dwell on them at present. I will only say that the post-tetanic rise of temperature, when it exists, is due to the post-tetanic flushing of the muscles with blood that is warmer than the muscle. When the blood is cooler than the muscle, as sometimes happened, we have a post-tetanic fall of temperature. Some plethysmographic experiments convinced me that this explanation, based on what in Germany is sometimes called "das Gaskell'sche Phänomen," is applicable to all the peculiarities of the curves. A study of these peculiarities, moreover, shows that the absence of thermal phenomena was not due to any perceptible impairment of the vaso-motor mechanism of the muscle at the lower temperatures. The lesson taught by these experiments appears to be—first, that the motor function may persist while the thermogenic function is in abeyance; and secondly, that *cold* is capable of abolishing or notably depressing the latter function, while the former is still but little or not at all affected. The therapeutic bearing of the second lesson is not unimportant.

Since 1881, two investigators also working in Professor Ludwig's laboratory have carried on the research in other directions. Dr. Meade Smith and Dr. Lukjanow,[3] in a memoir that has lately been published, display in minute detail the laws which govern the fatigue of the thermogenic function of a living muscle—(1) with the blood-supply shut off for a time, and (2) with the blood in full circulation. They also investigate the law of recovery of this function when it is completely exhausted, so far as it is effected by simple rest with or without blood-supply. The outcome of these experiments may thus be expressed: The effect of stimulating a muscle through its nerve is to start in it two processes—one, as it were, explosive, and manifested by change of form and the performance of mechanical work; the other more continuous, and manifested by the increased development of heat. Each process has its own laws as regards (1) the influence of external conditions—such as intensity of stimulus, load, extension, and so on; (2) the influence of fatigue from repeated stimulation; (3) the influence of general exhaustion from inanition or other debilitating causes; (4) the influence of the general temperature of the protoplasm of the muscle; and (5) the influence of rest and of the circulating blood in restoring lost power. This independence, I think, justifies us in assuming that the two processes are largely independent and coördinate. The heat developed in the second or thermogenic process is not simply a thermo-dynamic waste-product, an excretion of no greater dignity than urea or carbonic acid. On mechanical principles, the dislocation of the parts of the muscle on contraction, and again on relaxation, must give rise to a small quantity of heat, which one might call thermo-dynamic waste. It is the outcome of the degradation of the kinetic energy of contraction, such as occurs when any moving mass overcomes friction or is reduced to rest. But the amount of this waste heat is calculable, and it comes out as perfectly trifling in comparison with what I may call the thermogenic heat. In some of the experiments of Lukjanow it was much less than 1 per cent. of the heat liberated simultaneously with contraction.

The processes which issue in motion on the one hand and in thermogenesis on the other are of course associated with chemical movements in the muscle, with metabolisms whose terminal steps are the accretion of oxygen and the excretion of carbonic acid and water. The considerations I have adduced, and especially those relating to the power of recovery in a fatigued muscle under the influence respectively of rest and of the blood-supply, point to the conclusion that the two metabolisms are in some way different. In other words, that the "contractile stuff" in the muscle is not the same as the "thermogenic stuff." Both of them are stored in the muscle; so far as function is concerned they *are* the muscle. The store of each can be exhausted by repeated stimulation, but in some cases the thermogenic store sooner than the other. Both can be upbuilt again by the circulating blood, but in some cases the contractile store sooner than the thermogenic. Both the metabolisms are affected by cold, but the thermogenic much sooner and much more intensely than the contractile. We know little of the exact nature of the chemical changes involved in either form of metabolism. Oxygen is taken up in each, and carbonic acid is discharged, but the processes passed through between these terminal stages are much more complex than simple oxidations. The evidence rather goes to show that it is the living substance as a whole, contractile stuff and thermogenic stuff, which is continually being decomposed and as continually being recomposed by the blood. The net balance shows only gain of carbonic acid and loss of oxygen, but the nitrogenous parts also of the working substance have in the process undergone partial destruction and equivalent reconstruction. This is in health; but if the reconstructive part of the process is inadequate or absent, the balance of accounts will give evidence of a nitrogenous residuum which is morbid. The muscle substance will appear to be itself consumed; it will no longer be what I may call merely the circulating medium of consumption. I say it will *appear* to be consumed; this only means that the *net* result is loss of nitrogenous substance. The cast-out nitrogenised molecules of the muscle are not really excretionary in the sense that carbonic acid is excretionary. They have merely failed of that immediate upbuilding into muscle substance again which is characteristic of the healthy metabolism. This incessant upbuilding of the muscle substance, which is a necessary consequence of the fact that no increase of urea or other nitrogenous matter is produced in the ordinary processes of muscular metabolism, must require the expenditure of a certain amount of energy. If in any measure the upbuilding is checked or abolished, so much energy is of course unexpended. It was on some such asset of energy as this that, as I presume, Dr. Ord fixed his attention in the suggestive paper[4] of which I spoke in the last lecture. He asks: "Is the increment of heat of the body in fever due not only to combustion or other disintegrative processes thereto allied, but also to the persistence in the form of heat of energy which should have taken another form?" I believe that Dr. Ord's claim on this asset must be allowed, at least so far as it refers to that part of the muscle substance which in fever fails to be reconstructed. But I fear the asset is a very small one at the best, and quite inadequate to provide a large addition to the heat production of fever. Moreover, it would be measured in a rough way by the loss

[3] Du Bois Reymond's Archiv, 1885.

[4] Brit. Med. Journal, vol. ii., 1885.

of nitrogenous substance in the muscle—in other words, by that very combustion of the tissues which Dr. Ord himself regards as already inadequate to account for febrile heat. When he goes further and extends his claim over the whole field of the tissues, in which normal constructive metabolism implies the locking up of energy, and when he infers from the absence of tissue formation in fever that the locked-up energy must therefore all "run wild" and take the form of heat, I fail to follow his argument. Granted that in fever tissue formation is to some extent in abeyance, are the materials and the energy for tissue formation still being supplied in normal quantity? We cannot credit ourselves with the possession of unused energy till we are sure that the full tale of energy is being supplied and not used. In other words, until account is taken of the low diet of fever we cannot say with Dr. Ord that the energy which in health is utilised in tissue-forming is in fever all available for heat-producing.

To return now to the thermogenic metabolism of the muscles. I have already implied, but may usefully state here in so many words, that in ordinary conditions it is continually going on as a quiescent but unceasing process. Contraction is accompanied by an increase of it, but contraction is not necessary to it. So long as the blood-supply and the nerve-supply are intact, the muscle, whether visibly moving or visibly resting, works unceasingly at its business of heat production. I say so long as the blood-supply and the nerve-supply are intact: we have already touched on some of the ways in which the blood-supply is related to the thermogenic function; we have now to consider the relation of the nerve-supply.

When we stimulate the nerve going to a muscle, two obvious processes are set up in the muscle substance. The one issues in temporary contraction; the other temporarily increases the production of heat. When a muscle is poisoned by curare, both these effects of the stimulation are done away. As we know, curare abolishes the function of the peripheral nerve endings, and thus blocks the way for the transmission of impulses from the nerve trunk to the muscle. The thermal behaviour of an animal in whom the thermogenic tissues are thus cut off from the influence of the nervous system is very remarkable. The vaso-motor mechanism is intact, but the animal can no longer maintain its temperature. If it is plunged in a cooler medium, its temperature steadily falls; in a warmer medium it steadily rises. It is, in fact, the plaything of the external conditions: it is to all intents a cold-blooded animal. Still more remarkable is the change in the quantity of its oxidative metabolism, as manifested by the consumption of oxygen and the exhalation of carbonic acid. Both of these fall in the cooler medium to a mere fraction of the normal.[5] The circulation remains unaffected; the respiration can be artificially maintained. The cause of the change can only be the interception of the nervous influences that normally reach the muscles. Two inferences are inevitable: (1) that the thermogenic function of the muscles is primarily dependent on their innervation; and (2) that the share of the muscles in the oxidative metabolism, the combustion processes of the body, is so great that when they are excluded a mere fraction of the whole alone remains. This second inference confirms and justifies the attention we have concentrated on the muscles as the chief sources of heat, normal and febrile. The first inference leads us from the muscle to the nerve. But if when no contraction is going on the normal muscle is continually undergoing an active oxidative metabolism, and if this metabolism is dependent on active innervation, we must conclude that through the nerve trunks at all times there is kept up a continuous stream of nervous influence. In other words, that in the resting muscle a constant *thermogenic tonus* is maintained. The old arguments for the existence of a constant motor tonus in muscle now appear to be inadequate, though its impossibility is by no means proved. As regards the vaso-motor muscular system, however, there seems no doubt that such a tonus, such a degree of steady moderate contraction, does exist. There is, if I may so call it, a state of strained equilibrium between the vaso-constricting and the vaso-dilating influences, and the result is that mean condition—ready to be altered either way as one influence or the other preponderates—which we call arterial tone. And in the case of the respiration we have something very similar. In ordinary automatic breathing there is a steady rhythmic balance between the inspiratory and the expiratory impulses sent to the muscles of respiration—rhythmic but yet balanced, as are the impulses that maintain a planet in its elliptic orbit round the sun. Indeed, as I have already hinted in passing, it is possible to explain the automatic mechanism of respiration by regarding the balanced impulses as simply motor and inhibitory of the inspiratory muscles. The periodic equilibrium is capable of perturbation by various reflex and volitional causes; the breathing can be augmented or depressed in various ways; but in the normal self-regulated condition we have what we may call a *nervous tonus* of the respiratory centres. Now, as the vascular tonus is the result of a strained equilibrium between the opposing impulses given to the unstriped muscle of the arterial wall—the opposing impulses sent along the vaso-constrictor and the vaso-motor fibres,—and as the nervous tonus of the respiratory centres is in like manner due to what I have called a rhythmic balance or periodic equilibrium between motor and inhibitory influences, so I am fain to regard the thermogenic tonus of the muscles as the manifestation of a balance between two opposing innervations. But you will perhaps say, Granted that in respiration there is a balance between two tendencies, the nature of these tendencies is obvious—there is inspiration and there is expiration; and in the tonus of the arteries the two opposing tendencies are equally obvious—there is constriction and there is dilatation. What are the two tendencies that are balanced in the thermogenic tonus? The answer is: first, the tendency to the upbuilding and storing of what I have bluntly called the "thermogenic stuff" of the muscle—the *thermogen*, if I may coin the word; and, second, the tendency to disintegrate this by a process involving oxidation. At Cambridge we are accustomed to speak of the upbuilding aspect of metabolism as anabolic, and the unbuilding aspect as catabolic. If I were to compress what I have ventured to suggest to you into a formula, it would be: the thermogenic tonus of a resting muscle is dependent on a balance between the nervous impulses subserving anabolism and those subserving catabolism of thermogen. The words have a formidable sound, but I trust the idea they are meant to convey is clear enough. They emphasise the *particular* processes referred to in general terms by Dr. Broadbent in his admirably terse article in "Quain's Dictionary of Medicine." "If a theory of the febrile process is to be formed," he says, "it must be based upon a theory of the relation between the nervous system and the processes of nutrition and oxidation, and especially the latter." A few years ago such a theory of the relation of the nervous system to the processes of anabolism and catabolism would have been at best a pure speculation. Imperfect understanding of the true nature of one whole side of the relation—namely, the anabolic side—stood in the way of every attempt at demonstration. Now, however, thanks in great part to the suggestive work of my colleague Dr. Gaskell, we are beginning to have clearer light on the subject; he has given a basis of facts for a new and comprehensive generalisation, and has opened out a vista for research whose limits we cannot now estimate. I will here ask your attention only to so much of his investigation as may help us to an insight into thermogenesis.

As examples of a tonus or balance of opposing tendencies, I have mentioned, first, the tonus of the arterioles maintained by the joint continuous action of the motor and inhibitory nerves subserving contraction of the vascular muscles; and, secondly, the tonus of the respiratory apparatus maintained by the joint rhythmic action of the motor and inhibitory centres controlling inspiration. There is a third example which is hardly less familiar, though it is only of late that we have approached a consistent theory of it. I refer to the action of the cardio-motor and cardio-inhibitory nerves in maintaining the rhythmic contraction of the heart. The complicated apparatus of intrinsic ganglia, of local inhibitory mechanisms, and so on, is being gradually simplified as our knowledge of the cardiac nerves increases. Suffice it here to say that to maintain the heat at its normal rate only two concurrent and continuously acting *central* influences need be assumed. The one is exerted through the branches of the cervical sympathetic—the motor nerves of the heart. Dr. Gaskell, in his epoch-making memoir[6] on the sympathetic system, shows that we may class these nerves as functionally, structurally, and morphologically equivalent to the motor nerves of the

[5] Röhrig and Zuntz, Pflüger's Arch., 1871.

[6] Journal of Physiology, 1886.

vessels—the vaso-constrictors. The other influence is exerted through the vagus nerve, and, as we all know, its action is to check the heart's beat; when the nerve is cut the rhythm is suddenly quickened; when we stimulate the nerve the heart remains motionless and flaccid. It is the typical inhibitory nerve; it corresponds to the vaso-dilators.

But what is the nature of the influence on the cardiac muscle exerted through the motor nerve? and how does it differ from the apparently opposite influence exerted through the vagus? The characteristic effects of motor stimulation on the heart are primarily increased rhythm, increased vigour, and increased conduction of the beat through the muscular tissue. "But our knowledge of the action of any nerve is not complete so long as we only know its primary action; the chemical changes which the action of the nerve sets up in the tissue must manifest themselves in a more or less permanent after-effect, which must be recognisable apart from the more temporary primary effect of stimulation. ..... A motor nerve causes a muscular contraction by means of chemical changes in the muscle which are of a destructive nature, so that the after-effect upon the muscle is in the direction of exhaustion; and if the activity of the muscle be long continued this exhaustion becomes very manifest. ..... The subsequent exhaustion is as important a factor as the contraction." Dr. Gaskell shows that the sympathetic nerves of the heart are motor in this sense also—that their continued stimulation leads to exhaustion of its muscle. He describes such a nerve as the *catabolic* nerve of the tissue, the nerve which produces its motor effect by augmenting suddenly the destructive metabolism of the resting muscle, and thus by excessive repeated action exhausts the store of "contractile stuff" within it. What now is the after-effect of vagus stimulation when the primary and temporary effect of stopping the beat is gone by? Dr. Gaskell has shown that as regards all the functions of the muscle "the after-effect is nothing but beneficial." If before the stoppage the heart was beating at its normal rate, the rhythm afterwards is perfectly maintained or even quickened; the contraction power is maintained, or, if it was weak before, increased; the conduction power is restored if from exhaustion it was impaired: in a word, the tissue, if damaged, is repaired and restored as the result of stimulation of the inhibitory fibres. In fact, the result of vagus action is exactly opposite to that of sympathetic action: from the latter we have increased activity followed by exhaustion—symptoms of catabolic action; from the former diminished activity followed by repair of function—symptoms of anabolic action.

There is thus "no greater mystery involved in the conception of a nerve of inhibition than in the conception of a nerve of contraction. In the former case, the cessation of function, the relaxation of tissue, is a symptom of constructive chemical changes going on in the tissue—that is, of anabolism, or assimilation, or trophic action,—in precisely the same way as the activity of function, the contraction of the tissue, is a symptom of destructive changes—that is, of catabolism or dissimilation. ..... The evidence is daily becoming stronger that every tissue is innervated by two sets of nerve fibres of opposite characters, so that I look forward hopefully to the time when the whole nervous system shall be mapped out into two great districts, of which the one is catabolic, of the other anabolic, to the peripheral tissues; two great divisions of the nervous system which are occupied with chemical changes of a synthetical and analytical character respectively, which, therefore, in their action must show the characteristic signs of such opposite chemical characters. ..... The decisive proof that inhibition is a symptom of anabolism in the same way as contraction is a symptom of catabolism will, in all probability, (first) be found in the heart; and perhaps the most important investigation that must be done before this theory of anabolic nerves is based on an absolutely firm footing is to find out what are the electrical and thermal changes in the heart muscle which accompany the stimulation of its inhibitory nerve fibres." Since this was first written a remarkable confirmation of the doctrine has been obtained. When the motor nerve of a quiescent muscle is stimulated, the contracting muscle assumes an electrical condition different from that of the uncontracted—the *negative* variation. Dr. Gaskell finds that when the inhibitory nerve of a piece of quiescent heart muscle is stimulated, the muscle exhibits an electrical change of precisely the opposite character—a decided *positive* variation. He is now at work on the thermal changes accompanying inhibition, and the next news I expect to hear is that, as on stimulating a motor nerve we have a simultaneous evolution of heat, so on stimulating the inhibitory nerve the muscle becomes cooler.

It seems to me that from the considerations advanced in this lecture it is not rash to proceed to a provisional generalisation. It is this: that not the visceral and vascular muscles only, but all the muscles of the body, have their double nerve-supply. The one set of fibres are essentially catabolic; they set up disintegrative changes in the muscle, which are manifested first by thermogenesis, and secondly by contraction. The other set of fibres, whose path is perhaps anatomically different, are essentially anabolic; they set up reconstructive changes in the muscle, which are manifested by inhibition of motion on the one hand, and the absorption of energy on the other. Does the motor fibre also subserve the thermogenic function? Does the same catabolic nerve convey the stimulus which determines motion and the stimulus which determines the evolution of heat? Or are the stimuli only quantitatively, not qualitatively, different? Or again, as I have suggested, is the stimulus the same, but the "stuffs"—contractile and thermogenic—different, one impulse starting two kinds of catabolism, as when the same electric spark simultaneously fires a mixture of two explosives? These questions are as yet unanswered, though I am persuaded that the answer is not far off. Meanwhile we have brought our argument to this, that the heat production in the muscles, the chief furnaces of fever, is probably carried on under the influence of a twofold nervous mechanism: the one part exciting to thermogenesis, accompanied by destructive metabolism; the other staying thermogenesis, and subserving constructive metabolism. The thermogenic tonus is the manifestation of the normal balance between these two parts. In other words, the character of the nervous mechanisms subserving heat loss is paralleled by an analogous twofold character in the nervous mechanism subserving heat production. The relations of this nervous mechanism to the central nervous system and to the thermotaxic mechanism will occupy us in the next lecture.

ABSTRACT OF

Lectures

ON THE

ACTION OF NERVE CENTRES AND MODES OF GROWTH.

Delivered at the Royal College of Surgeons, February, 1887,

BY FRANCIS WARNER, M.D., F.R.C.S.,

HUNTERIAN PROFESSOR OF COMPARATIVE ANATOMY AND PHYSIOLOGY AT THE COLLEGE.

LECTURE III.

THE STUDY OF PATHOLOGY.

IN studying any fact in physiology or pathology, as in studying any scientific problem, we must first describe it in exact physical terms, such as connote what may be observed. In giving descriptions for scientific purposes it is advisable to avoid using metaphysical terms, as also to avoid speaking of pathological states as special entities. Let us then seek to describe pathological states in terms connoting facts capable of observation. The work in hand is divided into two parts—to describe facts, and to seek their explanation in the antecedents and sequents of these facts. The importance of pabulum and its supply in bringing about pathological processes has often been insisted on. I would insist on the equal importance of the forces or stimuli incident to the subject observed as necessary factors in determining the action in it.

There are two great classes of pathological facts—those indicated by movements (conveniently called "kinetic"), and those indicated by acts of growth (conveniently called "trophic"). The results of movements are postures, which may be represented by casts or drawings; the results of growth, normal or abnormal, may be preserved in the

museum. If the pathological fact to be studied is kinetic, either active or in a state of equilibrium, we analyse it as we analysed movements and postures, and it will then be found that in many cases both healthy and pathological characters often depend upon the antecedents, upon the surroundings, or upon the sequents, rather than upon the intrinsic attributes of the action. Similar relations between normal and abnormal acts of growth will be demonstrated. There is a very prevalent and apparently well-founded opinion among biologists and pathologists that the modes of action termed "reversion" are potent factors in the production of many of the conditions termed "pathological." This idea has principally guided investigation concerning the action of the nerve system and the origin of morbid growths.

I shall not attempt to prove any view, but put forward an hypothesis for the purpose of illustrating what I believe to be the advantages derived from the definite observation and study of movements. The theory may be advanced that "chorea is a condition of the brain analogous to that found in healthy infancy, such brain state occurring at a period of life when the force, generated by nutrition, is greater than in infancy." A reversion has been defined as a repetition of a series of movements or trophic acts, similar to a series previously existent; the criteria indicating similarity have also been defined. The child can never again become an infant, but it may become "infant-like"; its body is heavier and larger than that of the infant; its quantity of nutrition and movement are greater. In chorea the reversion is indicated by a repetition of the ratio of the attributes of the infantile state; the ratio of kinesis to weight is repeated; it is infant-like in the ratio of kinesis to trophic action. The nerve centres are observed at two periods of life—infancy and childhood; comparison is made as to the quantities and time of their action. Observation shows the combinations of movements in the infant and in the choreic child to be similar; there is said to be similarity as to the parts and their order of acting. The quantity of movement depends upon brain nutrition; the total quantity of nutrition may roughly be estimated by the weight of the body—say 15 lb. in the infant and 45 lb. in the child; the nutrition, then, in the child is three times as great as in the infant; if the ratio of kinesis and nutrition were maintained during development there would be three times as much movement in the child as in the infant. I believe this is not usually the case, but as development advances kinetic action is lessened in its ratio to other functions. We say that in health the ratio of kinetic action to nutrition lessens as growth proceeds; if this ratio reverts to that of infancy there will be an amount of movement altogether abnormal. It seems to me that this reversion to the infantile ratio between nutrition and movement is what we observe in chorea. Lessened nutrition tends to produce reversion; in chorea the weight falls, and the condition is not removed till it is restored to near the normal; mitral regurgitation tends to produce irregular supply to the brain.

Coma may be described in terms of lessened movements and reflexes. All movements may be absent, except those of organic life; the head is not turned towards a source of light or sound; the word of command and pressure on the chin are not followed by protrusion of the tongue; there may be subsultus tendinum. The arm held passively free falls into the posture of "the feeble hand."[1] [Further illustration was given by a comparative study of hemiplegia and hemispasm.] The nerve-muscular area is the same in each. The decrease of quantity of motion in hemiplegia is proportional to its increase in hemispasm, in the small and large parts respectively. Fatigue and exhaustion of the brain-muscular power on both sides is common; if, however, one side of the body or one limb be powerless, there being no evidence of organic disease, then the state is often called "hysteria." It appears, then, that a bilateral diminution of nerve force of short duration is less pathological than a one-sided weakness. In observing patients as to their movements and postures, note the action of small muscles—e.g., the interossei, causing lateral movements of fingers, as distinguished from flexor movements produced by larger muscles.

[Asymmetry of action was then dwelt upon; it was suggested that lateral curvature of the spine often commences thus. A *nervous child* was described.] Let the child stand up, and observe the conditions of growth, make of skin, the form of features; he is often too tall and too thin, the face being less emaciated than the body. Let the hands be held out; the left upper extremity is usually at a lower level; "the nervous hand posture" is probably seen on either side, perhaps more marked on the left. There may be finger twitching, with flexor or lateral movements; the spine is arched too forward in the lumbar region, often with slight lateral curvature. The face as a whole is usually too immobile, but there may be twitchings of face, eyes, tongue, &c.; the head is often flexed with inclination and rotation to the same side. The teeth are often ground.[2]

It has been demonstrated that ratios of growth have much to do with the character and results of acts of growth; we are thus led to seek examples where the pathological character of growth is due to the ratios of action. We saw that many forces can regulate proportional growth; they will be seen in some cases as the antecedents of pathological processes. Hypertrophy or over-growth may be due to an extra supply of blood, as seen in Hunter's specimen of a spur transplanted into the comb of a cock. Growth may be lessened by pressure, as in a Chinese foot, and in atrophy resulting from pressure. Hypertrophy may result from pressure, as in the large heart accompanying arterio-capillary fibrosis. The leaf-stalk of Solanum jasminoides becomes thickened by pressure when it has twined round a support. Nerve force may regulate the quantity of growth. In anterior poliomyelitis the muscles waste; occasionally in hemiplegia the paralysed limb remains shorter in a child. It has been said atrophy follows disuse of parts, and that hypertrophy results when they are much used. [It was argued that muscles often become atrophied when they receive too little stimulus of nerve force, and that when strongly stimulated by incident nerve currents their growth is increased thereby; cases and examples were given in support of this view.] It is necessary to inquire in this place, what is meant by "the use and disuse of parts." The phrase is usually applied to voluntary action, which is followed by increased growth; lessened growth follows from lessened stimulation by the nerve centres in disuse. In anterior poliomyelitis the muscles waste because not stimulated; in hysterical palsy they do not waste because nerve-currents do reach them, though not in quantity sufficient for motion. [Certain crustaceans from the mammoth cave were shown whose eyes had been lost from their long residence in darkness; other members of the species, living in light, had perfect eyes.] What is called voluntary action appears to produce more growth than chorea, athetosis, &c.; it is probable that in the former cases the stimulation is greater.

We may next proceed to demonstrate that many unusual or pathological cases of growth may be due to the ratios or quantities of growth. In the signs of old age we see altered proportional growth; those first mentioned are almost normal to the time of life; the latter are clearly pathological, as tending to destroy the life of the individual. At the approach of old age we see diminished growth; atrophy of the hair of the scalp, the skin, muscles, and the heart, while fat may either be absorbed or may accumulate about the abdomen, &c. At the same time increased quantities of growth may occur in the prostate, and in the hair bulbs of the chin of the female; while in some cases overgrowth is further seen in the development of epithelioma, sarcoma, and cancer. [Examples were then given showing the results of varying ratios in the growth of different tissues.

Passing on to consider the causes of curvature in rickety bones, it was suggested that some are produced by mechanical strain, while others are due to unequal bilateral growth of the shafts.] Curves which are only exaggerations of the normal curves, and which are symmetrical, are probably due to unequal bilateral growth; such are seen in children who have never walked and whose muscles are very feeble. Further, in such cases the skull is often defective in form, being a bony growth, but slightly acted on by muscles at the part most misshapen. [It was shown that Glisson put forward very similar views, and facts concerning the growth of stems of plants were used as illustrations of the hypothesis. Defects in proportional growth are often seen in teratological specimens; various specimens were shown in support of this statement. In some cases there was a history of inheritance of the deformity. It was argued that the inheritance was rather that of a stimulus to nutrition than of the pabulum; while in the case of an hypertrophied kidney when its fellow had been destroyed by calculus, it

[1] See Physical Expression, International Science Series, chap. ix.

[2] See Analysis of Fifty-eight Cases, Brit. Med. Journal, Dec. 1879.

was an example of altered proportion of growth from over-supply of blood. Cases of coincident deformities were given, and it was shown that often the brain is likewise defective.]

Analogies may be made as to the distribution or seat of the parts affected by a pathological process. Many skin diseases are maculated, affecting small loci of tissue asymmetrically or asymmetrically distributed. Among young infants, in the spontaneous movement of many small parts, we have evidence that separate scattered loci of brain tissue are in action. Some processes are considered pathological when asymmetrical, but not so when symmetrically distributed. Sunburn is normal; freckles are less so; one-sided pigmentation is abnormal. *Time* is an attribute of acts of growths that may give them an abnormal character—as late or irregular dentition, the development of pubic hair before adolescence, premature ossification of the skull, &c. These various considerations lead us to study the forces which control the time, quantity, and kind of growth—e.g., the effects of light, pressure, or mechanical irritation, &c.

[In conclusion, it was shown that motor actions may be described in terms of time and quantity of movements, and growth in terms of time, quantity, and kind of action in the component parts, and evidence was advanced that the attributes which give special characters may be controlled by physical forces.]

Inaugural Address

DELIVERED BEFORE THE

OBSTETRICAL SOCIETY OF LONDON,

BY JOHN WILLIAMS, M.D., F.R.C.P.,

PRESIDENT OF THE SOCIETY.

GENTLEMEN,—I thank you for the honour you have done me in electing me to this chair—a chair which has been occupied by the greatest and best physicians practising obstetric medicine in this country—an honour the greatest which the Society can confer on any one of its members. In accepting this high position, I feel I undertake a great trust; for the work of this Society has had, has now, and should always have, a great and beneficial influence upon the progress of the science and the practice of the art for the cultivation of which the Society mainly exists. I am, however, encouraged by my knowledge of the character of the officers associated with me in carrying on the work of the Society, as well as by my knowledge of the Fellows of the Society, alike those who are regular attendants at its meetings, and those who contribute to its Transactions and take part in its discussions. I feel sure that I shall not fail of the help of all.

My first duty on taking this chair is to address you—to deliver an inaugural address, and I at once confess at the very outset that I have been perplexed and in difficulty. It would have been no easy task to have written a contribution of a scientific character for discussion by the Society. Whenever I have ventured upon such an undertaking, it has been with diffidence, and misgiving of the thoroughness of my clinical and pathological observations, as well as of my knowledge of the work of those who had preceded me; but on those occasions I have been buoyed up by the feeling that what I was about to bring before the Society was brought there to be tested, put to the proof, subjected to your criticism, which I have always found to be not only gentle, but generous also. To night, however, the circumcumstances are changed. I have to speak *ex cathedrâ*, and this fact naturally does not give me greater freedom, but rather increases my difficulties, for I feel that my utterances cannot be corrected by your better wisdom. After the many able and learned addresses which have been delivered from this chair in the past, addresses which embrace almost every topic of temporary or permanent interest in connexion with obstetric practice, it would have been difficult for me to find a new theme for my discourse—unless, indeed, I had chosen to discuss a purely scientific subject; and it would have been equally difficult for me to tell you anything new about an old one. On occasions like the present, however, it cannot be amiss to take observations and determine the place to which we have steered or drifted; and I would look back, not at the history of this Society and its work only, but at the history and progress of obstetric science and practice, and I would do this not merely with a view to recount our triumphs, to survey our acquisitions, and lose ourselves in admiration of our brilliant achievements, but—which may perhaps prove more profitable—to recall to mind our defeats and failures, inquire into the causes of our disasters, and hold up to the light our errors in the past, so that they may prove of some use at least as beacons to point out the places where we departed from the path of truth, and to warn us against the will-o'-the-wisps which have been but too often mistaken for the light of science. I would look around with a view to examine the position we at present occupy, and I would look forward with the object of planning the best course for our progress in the future. As it would be impossible for me in the time at my disposal to discuss these subjects even in the briefest manner, I shall confine myself to a few observations which appear to me to be not uncalled for at the present time.

Obstetric medicine is divided into two branches—midwifery and the diseases of women. Great activity has been shown in both branches during the last thirty years, and great progress has been made. The estimate which is generally made of this progress is, however, of a one-sided character. The progress of midwifery has rarely been referred to; it has been overlooked, though not entirely; and yet to an impartial judge there can be no doubt about its extent and character. Indeed, to my mind, and to the minds of those who regard the saving of life as the crown of our work, the progress of our knowledge in midwifery has been far greater than in the diseases of women. Our knowledge of the use and application of the forceps, of the mechanism of labour in distorted pelves, and of pelvic measurement, and the means at our command for abolishing craniotomy, have saved many lives. And what shall I say of the introduction of antiseptics into the practice of midwifery? Forty years ago Semelweiss issued a few rules to be observed by the students attending women in labour in the Vienna Hospital. This proved to be the beginning of the greatest and most beneficent practice introduced into our department of medicine in this century. The work begun by Semelweiss has been crowned by the researches of Pasteur and Lister, and to-day we are in possession of the means to prevent the greatest scourge that afflicts lying-in women. When we compare the number of women who pass through the danger of childbed with that of the fit subjects of obstetric surgery, the latter sinks almost into insignificance, and the magnitude of the means placed in our hands for the prevention of puerperal fever looms high above that of all other possessions of the obstetric physician. I fear that this has been too little recognised by all who attend midwifery, for the strict use of antiseptics confers an infinitude of blessings upon the physician and upon his patients.

If we cast a glance at the history of that branch of obstetric medicine which deals with the diseases of women, the fact which strikes us first of all is the marked change which has come over it during the last thirty years—the surgical character which has been given to it. I am not going to recount to you the triumphs of abdominal and pelvic surgery. It has been done often, and indeed almost periodically, by those more fitted for the work than I. Their magnitude and their beneficent character are evident to us all. But all the pelvic and uterine surgery of the past cannot be described as triumphs. Much of it has better claims upon the term "disaster." There is hardly a malady ranged among the diseases of women, from the most trifling to the most severe, from vaginismus to uterine cancer, for which some surgical proceeding has not been suggested. This extraordinary state of things prevails nowhere else, and how is it to be accounted for? Is it to be ascribed to the failure of medical science, or to the slowness with which medical treatment accomplishes its objects? Is it due to impatience and hurry on the part of the practitioner? Does it arise from a plethora of surgical genius in our department? Or may not other causes play an important part in bringing about the present phase of the practice of the diseases of women? As with the diseases of other parts of the body, many of those which affect the female pelvic organs are, we readily confess, not amenable to treatment of a medical kind, and in some of these the art of the surgeon intervenes rightly and beneficently. There are others, again, in which the art of the surgeon has been

practised in vain or with evil consequences, but which have been subdued by the skill of the physician. There are others, again, which are cured neither by the skill of the physician nor by the dexterity of the surgeon, and this fact we should not have the obliviousness to forget nor the recklessness to overlook in practice. Hitherto surgery has proved of the greatest use in the removal of excrescences and the repair of injuries. When it has ventured beyond this, has it not been productive of more evil than good?

We are next struck by the number of operations which have been devised, suggested, and practised, by the extraordinary divergence of opinion held by authorities with regard to their value, and by the number of them which have been practised for a time and then have been entirely or almost entirely discarded. This is a state of things which obtains in no other department of medicine or in the surgery of any other part of the body. The practitioners of obstetric medicine are divided and subdivided, and the various groups which they form are separated by impassable gulfs; they pursue diverging lines and continually increase the distances separating them from one another; and there is no chance of their ever meeting except by retracing their steps. What are the causes of this deplorable state of obstetric practice? Have the many operations which have been proposed and practised been based upon carefully ascertained data—data acquired by honest scientific labour? Or have they been based upon hypotheses—the offspring of a too active imagination? Or have those who have been opposed to the present surgical mode failed to appreciate ascertained scientific truths? It would not be possible for me under any circumstances, perhaps, to answer these questions fully, and now I can only refer to one or two facts which have a bearing upon the answer. The fact that many operations which have been proposed and practised have proved useless or injurious and have been discarded, indicates that such operations were proposed on insufficient and untenable grounds. This will appear beyond doubt if I remind you of the history of vaginismus and dysmenorrhœa. The operations proposed for the cure of the former have entirely failed! And how many a hypothesis has been started—with unfortunately its usual appendage, an operation—with regard to the etiology of dysmenorrhœa, and raised to the rank of a theory without even the shadow of a foundation! What disasters have they led to, and how barren of good results have they proved! There can be no objection to hypotheses as such—they are essential to scientific research; but they should be made to be tested and not acted upon, to discover truth and not to be taken for it. It appears to me that the present surgical aspect of obstetric medicine arises chiefly from the promulgation of flashy hypotheses and their acceptance as established truths. The mischief arising from the too ready acceptance of surmises cannot be exaggerated, and I will give you a further illustration of it from the other branch of obstetric medicine. About a quarter of a century ago Dr. Braxton Hicks enunciated the scientific method of treating placenta prævia. For nearly five-and-twenty years this was overlaid by a mass of teaching based upon false hypotheses and exceptional occurrences, and has only recently been rescued from beneath the mass of error and reintroduced to us through the exertions of a German explorer. Hypotheses and their ready acceptance have been the bane of obstetric science during recent years. We should prove all things, and especially hypotheses burdened with operations.

Although what I have mentioned is probably the chief cause of the surgical aspect of practice in the diseases of women, yet there are other causes for it, and I would mention one of them—namely, the wonder-inspiring character of many of the operations practised for pelvic diseases. This is the side of them which appeals to the public, and unfortunately also to a large number of the profession. Like the most dangerous feats of the acrobat, they appeal irresistibly to a quality of mind which is far from uncommon.

If we look around us and glance at the present, we find untiring activity everywhere—sometimes well directed, sometimes not. In France excellent work is being done; Germany sheds abroad the facts gathered in her large lying-in charities and her laboratories; and the Transactions of this Society and those of its sister societies in Scotland and Ireland attest the amount and excellence of the clinical and pathological work done in this country. To America we owe much that is excellent in midwifery and in the treatment of disease. In that great country much of the energy of the profession is, however, devoted to the impossible—to setting the coping-stone before the foundations have been laid. At the same time, we rejoice that many of our brethren there are devoting themselves to clinical and pathological work. But there is one phase of the work done in their obstetrical societies which I cannot pass by without an expression of regret, and that is the practice of publishing imperfect reports of operations before the results, immediate and remote, of the operations are known. I can conceive no good to result from publishing operations on a Thursday which were performed on the previous Monday. Indeed, I know of no practice so likely to be productive of unalloyed mischief. It is a practice which I trust will never be introduced into our Society. If it is intended to benefit science by it, the intention must fail; and if it be for the purpose of mere advertising, I have no words bitter enough to express my contempt for it. Were this Society a mere advertising medium, I would neither hold office in it nor be a member of it for an hour. It is, however, an excellent publishing medium, and it is right that it should be such. We do not light a candle and place it under a bushel; nor do we bring new facts and new discoveries into this room to hide them, but for the enlightenment of one another and of the profession. My faith in this Society and my hope for its future are not based upon its excellence as an advertising medium, but upon the number of the scientific workers among its members. These are increasing, as is attested by the number of papers in the hands of the secretaries and the pressure on our time and space. And what is the work before us in the future? Is it the cure of disease and the relief of suffering? Yes. Is it the discovery of new drugs and their effects? Yes. Is it the improvement of obstetric surgery? Yes; all this and a great deal more. The present surgical aspect of the treatment of diseases of women is surely destined to pass away; it cannot be permanent. Were it otherwise, we should have to confess that medical science has proved a failure. Mutilation is not the highest goal to which medical and surgical skill can reach. A time will come when obstetric science will assume a preventive character. Although we cannot hope to abolish disease, yet we may be able to discover the means of preventing it, and perhaps of curing it without the aid of surgical art in its present mutilating character. We are already possessed of the means of preventing a large number of the chronic diseases and sufferings of women in the application of antiseptics to midwifery. This gives us the control of a large class of the inflammatory affections of the pelvis. Forty years ago the idea of preventing or abolishing puerperal fever and puerperal inflammations would have been scouted as Utopian, and who knows but that forty years hence some president of the Obstetrical Society may not be able to announce to his audience that obstetricians of that day possessed the means of preventing the growths of ovarian tumours or of fibroids or of cancer?

The progress of our science is not to be limited. It is not to be made, however, by happy guesses, but by steady work, and in no long time by co-ordinate work. Facts of all kinds, great and small, are to be accumulated. The present surgical activity would, if rightly employed, prove of service in bringing about the time I anticipate, and its own extinction, by making known facts which cannot well be otherwise discovered. No operation should be performed for cure simply, but also for investigation. No operation should be performed without a reasonable chance of cure or relief. Many of the operations now performed can be reasonably regarded as experiments only. If they can be justified at all, they can only be justified when done under the strict conditions of an experiment. Unfortunately, however, we know but little of the real results of operations of doubtful utility. But the help of surgery of a debatable character is not the only or chief means of sound progress. This has always been, and will be in the future, the result of patient watching by the bedside and careful observation of disease extending over years, and by continuous work in the laboratory. It will also be the work of the profession as a whole. It cannot be accomplished by the hospital and consulting physician and surgeon alone; it requires the help of the family doctor, of the town doctor, and of the country doctor. Each one has his work to do. As a rule, passing phases of disease only come under the observation of the hospital physician, while the whole course of it passes under the eye of the family doctor. Many of the diseases peculiar to women are of a very chronic character, and, as in other branches of medicine, their source is to be sought in antecedents long passed which come under the ken of the family practitioner only. But the country doctor has his part to do in this work. It is only by

research everywhere, in town, in country, in patients of different occupations and different constitutions, that the necessary facts can be obtained, and the country doctor is in this respect placed at an advantage over his town brother, although in other respects he may be placed at a disadvantage. This Society should gather facts from all quarters and from all sorts of practitioners—all kinds of facts bearing on health and disease. I have pointed out to you fields where each one of you may by patient work attain distinction and become contributors towards the progress of the science which we cultivate. To this work I invite you, and while I occupy this chair I shall welcome with equal partiality every fact—the smallest and the greatest—which is calculated to contribute towards the object which we have in view.

PYREXIA AND HYPERPYREXIA.

By T. J. MACLAGAN, M.D., M.R.C.P.,
PHYSICIAN IN ORDINARY TO THEIR ROYAL HIGHNESSES PRINCE AND PRINCESS CHRISTIAN OF SCHLESWIG HOLSTEIN.

(*Continued from page 518.*)

WITH distinct evidence that paralysis of certain parts of the body may occur without any organic lesion to account for it, there is no ground for claiming for the thermic centre immunity from such disturbance, and there is much evidence to show that it enjoys no such immunity. With that evidence we have now to deal. We shall consider it as it presents itself in hysterical pyrexia, in the hyperpyrexia of heat apoplexy, and in that of acute rheumatism.

Hysterical pyrexia and hyperpyrexia.—The name here expresses all that we really know about this condition. Cases are on record in which hysterical symptoms have been accompanied by a rise of temperature for which no explanation could be found. With distinct evidence that hysteria may cause paralysis of a limb, of the vocal cords, and of the bladder, we need have no difficulty in admitting the possibility of its causing impairment and even paralysis of the thermic centre. The essential symptom of such a condition would be rise of temperature.

Heat apoplexy results from exposure to heat. In the fully developed disease there is complete insensibility with a very high temperature; but the onset of this alarming condition is generally preceded for some days by headache, giddiness, restlessness, or other evidence of disturbance of the nervous system. That continued exposure to a high temperature is likely, in a native of a temperate climate unaccustomed to such exposure, to cause disturbance of the thermal apparatus there can be no doubt; and a brief consideration of the mode in which this disturbance is likely to be brought about makes it apparent that such exposure, if sufficiently great or long continued, may cause paralysis of the heat-inhibiting centre, and consequent great rise of temperature. Heat is an excretory product requiring to be eliminated; its main channel of elimination is the skin; a high temperature of the atmosphere necessarily interferes with such elimination, because in such an atmosphere heat cannot readily be thrown off. Heat elimination being thus checked, and heat production continuing as usual, heat must accumulate in the system, unless some agency steps in either to increase the former or diminish the latter. Under ordinary circumstances nature provides the remedy; for the same atmosphere which makes heat elimination difficult causes also increased activity of the skin, and so to some extent meets the difficulty which itself creates; while the general influence of residence in a hot climate leads to habits of life which diminish heat production: thus the risk of heat accumulation is diminished at both ends. But circumstances every now and then arise which break through these habits. Such circumstances are those which call for exposure and muscular effort during the heat of the day, as in the case of soldiers on the march. Tissue metabolism and heat production are stimulated, while the body is exposed to a temperature which makes impossible a corresponding increase in heat elimination. Under such circumstances, the only way in which the danger attendant on undue accumulation of heat can be warded off is by restraining heat production, and this end can be attained only by increased activity of the heat-inhibiting centre. Heat is the natural stimulus of that centre, and accumulation of heat in the system naturally excites it to increased effort. But the call may be beyond its powers to meet; it continues to make the effort and struggles to keep the temperature down, till over-stimulation leads to exhaustion; its efforts become feebler, and ultimately, paralysed by fatigue, it ceases to act. Thus is removed the last safeguard; heat rapidly accumulates in the system, and heat apoplexy, with its attendant hyperpyrexia, results. What takes place in the thermic centre under such circumstances is the exact analogue of what takes place in the respiratory centre, when, under allied circumstances, carbonic acid accumulates in the blood. The first effect of increase of carbonic acid in the blood is to stimulate the respiratory centre and cause increased frequency of respiration. If the gas goes on accumulating, that centre begins to show evidence of fatigue, and the respirations become slower and more laboured, the interval between them becomes wider, and finally they cease altogether, the heart continuing to beat for some time longer. The cause of their cessation is paralysis of the respiratory centre, induced by accumulation of carbonic acid, the natural stimulus of that centre. In the same way, accumulation of heat in the system causes first stimulation and ultimately paralysis of the thermic centre; and thus we explain the great rise of temperature in heat apoplexy. Post-mortem examination of fatal cases shows only a tendency to rapid decomposition, a fluid condition of the blood, and more or less congestion of the lungs.

Rheumatic hyperpyrexia.—Every now and then cases of acute rheumatism occur which, after presenting the symptoms of the malady in their ordinary form, suddenly develop alarming nervous symptoms, with a temperature rapidly rising to 108°, 109°, 110°, and even higher, and a tendency to death by coma. How is this great rise of temperature brought about? 1. It might be merely an exaggeration of the ordinary pyrexia of the disease. 2. It might result from a direct paralysing action of the rheumatic poison on the thermic centre. 3. It might be produced in the same way as heat apoplexy, by over-stimulation of the inhibitory centre, resulting in paralysis of heat inhibition, and consequent rapid rise of temperature.

A very little consideration suffices to show that the first hypothesis is not adequate. Were the hyperpyrexia of acute rheumatism merely an exaggeration of the ordinary pyrexia of the disease, cases in which it occurs would be characterised by inordinate severity of the rheumatic symptoms. But such is not the case. In cases which become hyperpyretic the disease up to the onset of the hyperpyrexia presents no unusual features. The temperature, the joint pains, the acid sweats, the heart complications, are all such as are met with daily in ordinary rheumatic attacks; and there is nothing in their symptoms to lead the physician to anticipate so alarming a complication.

The hypothesis that it may result from paralysis of the thermic centre consequent on the direct toxic action on that centre of the rheumatic poison, or some product of the rheumatic process, is one regarding which no more can be said than that it is possible. Against it may be adduced the argument that were such the mode of production of rheumatic hyperpyrexia, that condition would arise more frequently than it does. The rheumatic poison and the products of the rheumatic process operate in every case, but hyperpyrexia is of rare occurrence.

The third hypothesis is one for which more may be said, for between heat apoplexy and rheumatic hyperpyrexia there are many points of analogy. The symptoms and clinical features of both are very much alike, and the description of the post-mortem appearances observed in the one serves equally to describe those noted in the other. In each the tendency is to death by coma. Treatment, too, is the same in both. The main difference between them is in the circumstances which lead up to their occurrence. With so many points of resemblance between them we cannot but look for a common mode of production, some common pathological bond. The question for consideration is the possibility of the rheumatic process, as it exists in acute rheumatism, producing the same result as we find follow exposure to great heat. This latter acts by over-stimulating, fatiguing, and finally paralysing the thermic inhibitory centre. The question before us, therefore, narrows itself into a consideration of the point as to whether or not over-stimulation and consequent fatigue of the heat-inhibiting centre is a possible result of the process of acute rheumatism. Wide as is the difference between that process and great heat, and great as seems the improbability of two such different agencies

producing the same effect on the system, a careful consideration of the facts nevertheless leads to the conclusion that such result is not impossible. Certain it is that if overstimulation of the thermic inhibitory centre could be a result of any fever, rheumatic fever is the one in which it would most likely manifest itself, and that for the following reasons:—

In all fevers the rise of temperature results from increased tissue metamorphosis, as will be presently explained. This is the case in rheumatic fever, as it is in typhus, typhoid, and other fevers. But the circumstances under which that increased metabolism takes place in rheumatic fever are altogether peculiar to itself, and the peculiarity of these circumstances it is which leads up to the phenomenon which we are now considering—the greater tendency to the occurrence of hyperpyretic complication. Nearly every form of fever has for its essential and characteristic feature the occurrence of some local lesion—of some affection, generally inflammatory, of one particular organ or tissue of the body. The characteristic lesion of rheumatic fever is inflammation of the textures of the motor apparatus of the body. Part of this motor apparatus—viz., the muscles—is the chief seat of heat production. The more active the metabolism of the muscles, the greater the amount of potential energy produced. This potential energy may take the form of work or heat. As a matter of fact, it generally assumes the form of work, for it is when muscles are actively contracting that this potential energy is chiefly formed. But if the same metabolic changes which take place in a contracting muscle were to take place in that muscle when quiescent, the potential energy would take the form, not of work, but of heat. This is what occurs in acute rheumatism. The rheumatic poison causes a general febrile disturbance, accompanied by inflammation of the fibrous textures of the large joints. Inflammation of these textures is of course accompanied by increased flow of blood to, and increased metamorphosis in, them. Apart from the muscles with which they are connected, the fibrous tendons and ligaments have no function, no *raison d'être*. So intimately are the muscles and the textures involved in acute rheumatism connected in their function, in their innervation, in their vaso-motor and blood-supply, and in all that concerns their vital activity, that inflammation of the latter could not fail to produce in the muscles some degree of the same increased tissue change, the same abnormal metabolism, which is taking place in the fibrous textures as the result of the action of the rheumatic poison. This is not mere hypothesis, for we have distinct tangible evidence that there does occur in acute rheumatism such increased metabolism of muscle as is usually associated with active exercise. This evidence is the persistent presence in the system during the course of that disease of an excess of lactic acid. That acid is a metabolic product of muscle; it is formed in increased quantity during muscular exercise; and its constant presence in excess in the course of acute rheumatism is distinct and clear evidence that that disease has for one of its phenomena increased metabolism of muscle. It is the only form of fever in which such evidence exists. Muscle being the chief seat of the formation of heat, and the metabolism of muscle being the chief source of heat, it follows that the disease in which such metabolism is most active is also that in which most heat will be formed. That disease is acute rheumatism. Theoretically, there is thus reason to believe that heat production is more active in acute rheumatism than in any other disease; and there is also practical evidence that such is the case. The natural result of increased formation of heat is its increased elimination. The skin is the channel by which heat is eliminated. We accordingly find that profuse perspiration, the evidence of excessive action of the skin, forms one of the characteristic features of rheumatic fever. It is the only form of fever which is so characterised. Excessive production is thus met by excessive elimination of heat, and no undue rise of temperature occurs.

But another result of such increased activity of the heat-producing process must be stimulation of heat inhibition. The function of the thermic centre is to restrain excessive formation of heat; that function is therefore likely to be called into more active operation in acute rheumatism than in any other disease. It might happen, either from want of vigour or from unusual susceptibility of that centre, aided possibly by more or less failure in the heat-eliminating action of the skin, that heat production was in excess of heat elimination. Under such circumstances heat would accumulate in the system. The thermic centre would be first stimulated to excessive effort, then fatigued, and finally paralysed, as in heat apoplexy, and hyperpyrexia would result. That is a sequence of events which might occur in any form of fever or in any ailment, accompanied by increased activity of the heat-producing process. The more active that process the more likely is it to happen. Acute rheumatism, being the ailment in which heat is most abundantly and rapidly formed, is also the one in which inhibition is most likely to be over-matched. Hyperpyrexia is therefore more common in it than in any other form of fever.

It is evident that the neurotic theory of fever rests on a very adequate basis, and affords a reasonable explanation of the rise of temperature noted in many morbid conditions; and that it specially affords of the occurrence of the very high temperature of hyperpyrexia an explanation which, if not the only one possible, is at least more satisfactory than that offered by any other theory. But, adequate as this theory is—nay, necessary as it is—to the explanation of the rise of temperature noted in the ailments to which reference has hitherto been made, we must be careful not to let our advocacy of it carry us too far, or to try to explain by it the rise of temperature of ailments whose pyrexia can be better and more satisfactorily explained on the combustion theory. As already said, the neurotic and the combustion theories are not antagonistic. Each has its own special sphere of application. The most important and typical examples of neurotic pyrexia have already been instanced.

The maladies to the explanation of whose pyrexia the combustion theory applies are more numerous and important. To consider them all would be impossible here, and would not lead to a clearer understanding than the plan which we shall adopt of illustrating this theory by important and typical examples. For this purpose we shall take the specific fevers. They are chosen—(1) because they are the most important group of diseases to which man is liable; (2) because they are the maladies in which the evidence of increased tissue metabolism is most marked; (3) because the febrile process can be more conveniently studied in them than in any other maladies; and (4) because we know more about the nature of the cause (the specific poison) which gives rise to them than we do about the cause of most other febrile ailments, and can therefore more readily investigate its probable mode of action in the production of febrile disturbance.

(To be continued.)

NEW PELVIC TOURNIQUET FOR AMPUTATION AT THE HIP-JOINT AND OTHER OPERATIONS.

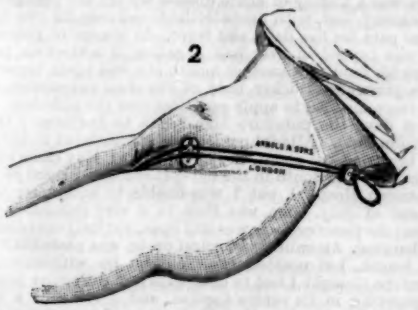
BY JOHN WARD COUSINS, M.D. LOND., F.R.C.S.,
SENIOR SURGEON TO THE ROYAL PORTSMOUTH HOSPITAL, AND TO THE PORTSMOUTH AND SOUTH HANTS EYE AND EAR INFIRMARY.

THE recognition of the operation of amputation at the hip-joint as a surgical proceeding occurred about the end of the last century, and in the pre-anæsthetic period the effectual restraining of hæmorrhage was always a matter of difficulty and danger. During the last few years the operation has been widely practised, and various methods have been employed by surgeons for controlling the circulation through the limb. 1. Digital compression of the femoral and external iliac arteries. When the flap operation is performed, this manipulation must be entrusted to a steady assistant who can undertake to follow the knife and to grasp the end of the vessel as soon as it is divided. An operation rendered tedious from any cause is sure, however, to excite painful weariness of the hand, and sometimes even severe cramp from prolonged muscular tension. Except for operations upon children, digital compression ought now to be regarded only as an auxiliary measure. 2. External compression by means of a rigid tourniquet. For this purpose Lister's aortic compressor has been very generally employed. It consists of a bar of steel shaped like a horseshoe, having at one extremity the spinal pad, and at the other a rod working through a female screw and carrying the abdominal pad. The application of this method is certainly not free from risk. The pressure of the instrument over the centre of the

abdomen interferes with the movements of respiration; at the same time, the occlusion of the vessel by the force of an unyielding screw involves the bruising of internal structures and the dangerous compression of important organs. 3. Internal compression of the iliac artery through the rectum. The rectal lever, recently introduced by Mr. W. Davy, is a very powerful instrument for controlling the circulation, and in the hands of the inventor it has been used with marked success; still, it is my opinion that it can never receive universal adoption. The finger cannot guide the rigid extremity of the instrument, and the greatest care and dexterity are insufficient to protect the pelvic structures from the dangers of contusion and injury. 4. Elastic compression of the iliac artery over the pelvic brim, and simultaneous pressure upon the posterior vessels at the sacro-sciatic notch. This excellent method is the invention of Mr. Jordan Lloyd of Birmingham. It can be effectually carried out by one assistant, armed with a calico roller, a piece of indiarubber bandage, and a safety-pin. From my own experience, I regard this form of elastic compression as far preferable to all the other devices which have been hitherto employed for the purpose of preventing hæmorrhage during hip operations; and I venture to express the opinion that it is destined to obtain general adoption in the future.

The pelvic tourniquet represented in the engraving has been designed for the purpose of facilitating the practice of elastic compression. It is a modification of the elastic cord tourniquet introduced by me some years since. It does not require the hands of an assistant to keep it in a state of tension, and the pressure of the cords over the compressor can be regulated with great exactness. The instrument consists of three parts: 1. A metallic clamp by which the cord is instantly tightened and loosened. 2. An endless elastic cord with a mark at the spot where the clamp is to be attached to it. 3. An iliac compressor consisting of a well-padded wooden block, with grooves on its upper surface for holding in position the elastic cords. (See Fig. 1.) The compressor can be elevated and depressed by the action of a central screw and two powerful recoil springs. (See Fig. 2.)

1



2

The method of application is very simple. After fixing the clamp on the cord, and emptying the limb of blood by elevation and friction, the patient must be turned over to the opposite side, so that the cord may be accurately adjusted, and the abdominal organs displaced out of the way of the compressor. The centre of the elastic ring is now inserted between the thighs—one loop is passed behind the tuberosity of the ischium, while the other loop, carrying the clamp, is placed in the grooves on the compressor. Both loops are now drawn upwards and outwards, and when they are sufficiently tightened the clamp is shut above the crest of the ilium. The external iliac artery can now be completely occluded by releasing the screw, at the same time the posterior vessels are controlled by the cords at the sacro-sciatic notch. Sometimes it will be found convenient to place the compressor in position under the cords after the closure of the clamp. The pelvic tourniquet is neatly made for me by Messrs. Arnold and Sons of West Smithfield.

Southsea.

THE INFLUENCE OF ALTITUDE ON PHTHISIS.

BY NATHANIEL ALCOCK, L.R.C.S.I.,
SURGEON-MAJOR, MEDICAL STAFF.

IN the third volume of Professor Hirsch's great work, "Handbook of Geographical and Historical Pathology," it is shown that while the influence of latitude upon phthisis is scarcely appreciable, that of altitude is most striking. The explanations hitherto offered of the action of altitude upon phthisis amount to three: greater expansion of the chest from aerial rarefaction; absence of bacterial organisms from the air; and general tonic effect.[1] Were the first of these effective, some improvement would be expected to follow the use of gymnastics at lower levels; of the second it may be said that every consumptive carries his own microbes with him; and the third is too vague to need discussion. It may therefore be assumed that no satisfactory explanation has as yet been suggested. The specific organism of tubercle has an established identity; consequently, the disease must be ranked among the special infections, and its aggravation or arrest must depend upon the fertility or sterility of the microbe to which it is due.

Pasteur, in his splendid researches on the poison of splenic fever, has shown that "splenic fever can never be taken by fowls; in vain are they inoculated with a considerable quantity of splenic blood." "Now, the temperature of birds being between 106° and 108°, may it not be," said Pasteur, "that the fowls are protected from the disease because their blood is too warm? A hen was taken, and, after inoculating it with splenic fever blood, it was cooled down to 100°. At the end of twenty-four hours the hen was dead. Again, a hen was inoculated, subjected like the first to cooling, and when the fever was at its height it was wrapped in cotton-wool and placed in an oven at 95°. In a few hours it was fully restored to health. Hens killed after having been thus saved no longer showed the slightest trace of splenic organisms." Thus it is proved that the microbe of one of the most virulent diseases reaches its condition of highest life and greatest reproduction in blood at a temperature of about 100°, but that in the same blood at 107° it ceases to exist. Presumably, then, if the subjects of some forms of bacterial infection could survive a proportionate elevation of temperature, they too would overcome the poison.

The question here arises, Are there any conditions in which the blood of a living man can be made to assume the molecular action equivalent to a temperature of 105° while the animal heat remains at 98°? Clearly such is quite possible by diminishing atmospheric pressure while the temperature remains fixed. We know that it would be quite impossible to boil water at the sea level with 199° of heat, but that if the water be removed to St. Gothard, 6808 ft. high, boiling will at once take place. Professor Thomson, in his opening address at the British Association, said: "It is scarcely possible to help anticipating in idea the arrival at a complete theory of matter, in which all its properties will be seen to be merely attributes of motion." It is already accepted that the only difference between the liquid and gaseous states is that of molecular motion. Consequently, if 199° of heat can make water boil at St. Gothard, it is apparent that this temperature can there produce an amount of molecular motion which not less than 212° could excite at the sea level. Further, as 199° is to 212° so is 98·4° to 104·8°; therefore the rate of molecular motion to which a temperature of 98·4° would give rise at St. Gothard could only be attained at the sea level as the result of a temperature of 104·8°.

Professor Clifford has shown that "the energy of the single particles is always proportional to the temperature of the gas," provided the pressure remains unaltered. Consequently, since the condition of every organism is but the aggregate of its ultimate atoms, if a man whose temperature at the sea level is 98·4° be removed to St. Gothard, it is evident that both the gaseous and liquid molecules in his blood must attain a rate of motion corresponding to what would have been produced at sea level by a temperature of 104·8°. But the experiment of Pasteur has demonstrated that the optimum temperature of certain infecting organisms is about 100°, and that when the vibration-rates equivalent

[1] THE LANCET, Jan. 8th, 1887.

to 106° or 107° are communicated to their constituent molecules, disorganisation follows. Hence it is intelligible that, if a consumptive patient whose temperature at sea level is 98·4° be raised to an elevation of 6000 ft., such alteration of molecular motion will take place in the blood as to be incompatible with the healthy existence and effective reproduction of the tubercular microbe; in fact, the patient will be placed in the position of the bird to the splenic fever poison. If this reasoning be sound, wide is the vista with regard to the epidemic levels of yellow fever, malaria, cholera, &c., which it must open up, and strange the possibilities which might result from the artificial production of the required conditions.

Military Prison, Dublin.

ONE HUNDRED CONSECUTIVE CASES OF ABDOMINAL SECTION.

BY GEO. GRANVILLE BANTOCK, M.D., F.R.C.S. ED.,
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(*Concluded from page 521.*)

Hydatids of the peritoneum.—The patient was a young single woman, aged twenty-five, by occupation a cook. When admitted in May, 1886, she gave the following history. She had been aware of "a lump in the stomach" for six or seven years. Three years and a half ago she had retention of urine, which was relieved by passing the catheter two or three times. She then entered a suburban hospital, where she was told she had a tumour. Nine months ago she had a child, and since that time the increase in the size of the tumour had been very marked. On opening the peritoneum, it was at once evident that I had to do with a case of hydatids—which I may say was suspected. The incision was enlarged to about 4 in. to admit of extraction of the different tumours before separating them from their connexions with the omentum, &c. I began by breaking down the connexions of the largest cyst, but they were so firm and the bleeding so great that I was obliged to resort to the method of ligaturing first and then cutting. In all, I removed about half a dozen cysts of various sizes, from that of a hen's egg to that of a small cocoa-nut. One of medium size occupied the right half of Douglas's pouch, where it hung pendulous with a slender attachment to a tag of omentum, where it was felt before operation, and regarded as an enlarged ovary. Down in the left iliac region, one, as large as an orange, lay amongst the coils of intestine. On seizing the exposed portion of the cyst wall between the finger and thumb, it at once gave way, and many daughter cysts, from the size of a pea to that of a walnut, escaped amongst the intestines and were with difficulty recovered. That one eluded my search was evident from the fact that at a subsequent period a small collapsed sac came away through the tube-hole. The cyst wall was so friable that it could only be detached from the intestines by means of the sponge. A small cyst was attached to the edge of the liver, and there was a larger one on the under surface of the liver, very far back. As it would have been impossible to drain these if opened, I let them alone. After thoroughly washing out the peritoneum a drainage-tube was inserted, and the patient made a good recovery. She is now in excellent health and able to follow her occupation. Nor is there any increase in the liver cysts. The weight of the cysts exceeded 2½ lb.

Retro-peritoneal cyst.—This tumour occurred in the case of a young lady aged fifteen, who came under my notice about the end of January last, having been sent to me by Dr. Robson Roose. The tumour had been observed for about eighteen months, and when first discovered was about the size of a Mandarin orange. During this time the patient was subject to attacks of severe pain, often accompanied with fever, the temperature sometimes running up to 105°. There was much bewildering consultation over the unfortunate patient, and the case forcibly illustrates the remarks made by Mr. Lawson Tait in a paper read before the Medical Society of London on Nov. 8th last, when he denounced many consultations with physicians over surgical cases as farcical proceedings. At last, however, Sir Joseph Lister agreed with me as to the propriety of surgical interference, on the ground that there was distinct evidence that the tumour was growing rapidly. Accordingly it was removed on Feb. 16th, 1886, the incision along the outer border of the left rectus muscle extending about an equal distance above and below the umbilical level. The tumour was covered by the mesentery, whose vessels were enormously enlarged, and it lay just over and in close contiguity to the left kidney, for which it was mistaken, owing to the impulse communicated to that organ on bimanual palpation, and it pushed the splenic flexure of the colon towards the umbilicus. Many ligatures were required in the course of the enucleation, the vessels being doubly secured before division; and, finally, the greater part of the sac was cut away after the application of a double stout ligature. A drainage-tube was inserted, as there was still some oozing from the remaining torn surfaces. The patient made a good though tedious recovery, owing to the occurrence of some superficial suppuration in the track of the drainage-tube. The temperature only once reached 100·8°, and was above 100° for only one day. The patient is now quite well. The tumour weighed over 1 lb. It is now in the museum of the Royal College of Surgeons. Mr. Eve kindly furnished me with the following report:—"The tumour is composed of a number of inter-communicating loculi, separated by numerous septa, and contained a glairy mucoid fluid. I am quite at a loss to explain its origin, the situation being so unusual, and only conjecture that it originated from some fœtal structure, possibly some of the rudiments of the permanent kidney; it was too high for the Wolffian body. The other possibilities that occur to me are that it was an ovarian cyst which had become separated by twisting of its pedicle, or that it was of the same nature as the cysts which have been found in the great omentum." I take Mr. Eve's first idea as probably the correct explanation of the origin of this remarkable tumour. It was situated too much behind the mesentery for an ovarian tumour which had become separated from its natural attachments, and its relations in no respect resembled an instance of that kind which occurred in my practice in October, 1884, in which I removed a small ovarian tumour from the right side of the abdomen, and whose pedicle had been severed from the *left* side.

Incision and drainage.—A married woman, aged thirty-seven, the mother of three children, the youngest of whom was eight years old, was sent to me by Dr. Amand Routh. There was a history of acute disease within the peritoneum in January last, with uncontrollable sickness for two days, severe pain for five days, and fever. At the end of February she was tapped of over half a gallon of a thickish, pale-yellowish fluid. In another month she was again tapped of three pints of a thicker fluid of the same appearance, and was recommended to apply poultices over the abdomen. In a few days the puncture hole began to discharge a thick puriform fluid. After three months' confinement to her bed she began to get about, and at the end of May came under the care of Dr. Routh in the out-patient department of the Samaritan Hospital, but I was unable to admit her until the end of July. She was then in a very emaciated condition; the puncture hole was still open, but only occasionally discharging. An ordinary surgical probe was passed in to its full length, but nothing came out on its withdrawal. I therefore thought I had to deal with a multilocular tumour suppurating in its centre loculus, and I was not a little surprised in the operation that when the parietes were divided I opened direct into a single cyst filled with a purulent-looking fluid, to the amount of about four pints. After washing out the cavity till quite clean with simple warm water, the cyst wall was seen to be lining the whole pelvic cavity, the intestines having been pushed out and the uterus pressed forwards and downwards; in fact, looking into the pelvis was like looking into a hat. It was therefore evident that this was not a case for further interference, and I accordingly closed the wound and left in a drainage-tube, and for the purpose of excluding air I filled up the cavity with warm water. After forty-eight hours, when there was a slight odour from the discharge, the cyst was washed out with sulphurous acid several times daily, and the odour at once disappeared. Whilst the temperature previously to the operation daily rose towards evening to 102°, it remained perfectly normal afterwards. In fifteen days she went to a convalescent institution, and in a few weeks more returned home. She presented herself at the hospital in November in perfect health.

Exploratory operations.—The list of seven includes nearly as many different conditions. In the first case the whole

peritoneum was studded with sago-like granulations, and the patient was much benefited by the removal of the fluid. When last seen, three months after operation, the fluid had not reaccumulated. The diagnosis made was "probably malignant disease." Whether this was correct, or whether the disease may turn out to be of a non-malignant nature, remains to be seen. It is, however, a singular fact that whilst tapping in these cases is always followed by a rapid reaccumulation of the fluid, the operation of abdominal section has been followed, in my experience, by complete immunity, even in cases that have proved fatal in a few months, from the progress of the initial disease.

The second and third were instances of supposed tubal disease: one of the patients being a young married woman, aged twenty-five, with two children, the youngest being six months old; and the other aged forty-six, with one child aged twenty-five. In both cases the adhesions of omentum, and especially of intestine, over the pelvic contents were very extensive, and so firm that there seemed no possibility of reaching the pelvis without rupturing the intestines, and after stopping the oozing from the ruptured adhesions by means of ligatures and the pressure of sponges the wound was in each closed. I have seen the latter of these cases quite recently, and while at the time of the operation, in November, 1885, the uterus was quite fixed in the pelvis, with considerable surrounding tumefaction, it is now quite mobile and the swelling has almost disappeared. This result would seem to disarm criticism directed against the non-completion of the operation, especially as the patient is already so advanced in years, and yet the attempt appears to me to have been justified by the physical signs and symptoms existing at that time.

The fourth case was one of papilloma extensively involving the left broad ligament, and the operation confirmed the diagnosis. The patient was a married but sterile lady aged fifty-six. She had been tapped three weeks previously, and the fluid had rapidly re-formed. Abdominal section was performed with the view of taking advantage of the curious fact to which I have just referred, and in this I was not disappointed; for while the patient was under my observation—three weeks—there was no reaccumulation of fluid. How long that might have been the case cannot now be determined, as the patient died a few weeks afterwards of an acute pulmonary disease.

In view of Mr. Doran's paper, recently read before the Obstetrical Society of London, on "Papilloma of the Fallopian Tubes," I may here state that I am inclined to believe that many, perhaps the majority of cases in which we find this form of disease, are instances in which the papilloma, taking its origin within, has burst through the tube and then spread itself over the broad ligament and adjacent structures. The last case I shall refer to (the second in the paper above noticed) appears to support this view, and if it be correct, then papilloma of the tube is not so uncommon as Mr. Doran's researches would lead us to suppose.

The fifth case is one of very great interest. On Dec. 8th, 1885, I was asked by Mr. Tapson of Clapham to see Mrs. R——, aged thirty-eight, the mother of two children, of whom the youngest was seven and a half years old. The history was as follows:—For the last year she had been "generally out of sorts": menstruation, previously normal, had become very irregular, with intervals of two and three months, and the last period occurred in the end of August. By the end of September she began to complain of pain in the right groin, which had gradually become very severe. She therefore consulted Mr. Tapson in November, and he, finding a small tumour in the right ovarian region, requested me to see her. On examination, a tumour, the size of a large orange, was found on the right side of, and closely attached to, the uterus, tender on palpation, non-fluctuating, but elastic. The fundus uteri could be distinctly defined. There was nothing characteristic in the condition of the cervix. As the result of this examination, I gave it as my opinion that the disease was either an enlarged ovary very closely attached to the uterus, or an affection of the (right) Fallopian tube, and I advised that Mr. Tapson should watch the case. By the beginning of January the pain had become so severe, coincident with an enlargement of the tumour, that he requested me to take her into the hospital as soon as possible, and she was admitted on January 11th. I was at once struck with the great change that had taken place in the local condition, and came to the conclusion that she was pregnant. Remembering the fact that on my first examination the fundus uteri could be distinctly made out, and recognising the change which had taken place in the cervix, I further concluded that the pregnancy was Fallopian, and I communicated to this effect with Mr. Tapson, who visited her with me in the hospital. The sound was passed and entered over four inches, running up on the left side of the mass, where its point could be distinctly felt. The tumour now extended as high as the umbilicus, and lay almost wholly *on the right of the median line*. She was seen and examined by several of my colleagues, the majority of whom agreed with me as to the existence of pregnancy. The pain continuing as severe as ever, and no signs of uterine disturbance having resulted from the use of the sound, it was determined, with the concurrence of Mr. Tapson and my colleagues, that abdominal section should be performed to avoid the risk of rupture, which appeared very probable from the severity of the pain. The case was thoroughly explained to the patient and her husband, and by the former the risk was most cheerfully accepted as affording the prospect of relief from her well-nigh intolerable sufferings. I must state that, had I been guided solely by the results of this examination and had not seen the case at an earlier period, I should have looked upon the case as a uterine pregnancy of which the pain could not be explained. After a lapse of eight clear days from the passing of the sound, the patient was submitted to operation. On opening the abdomen it was at once apparent that, after all, the fœtus was in the uterus. On the left side the ovary was in its normal position, and there was a considerable space between the uterus and the side of the pelvis. On the right side the ovary was low down behind the tumour, which was in close contact with that side of the pelvis; in fact, the ovary had not risen out of its usual position in the unimpregnated state. Very little of the tube beyond the fimbriæ could be made out. It is almost needless to state that I at once closed the abdomen. The temperature on the following day rose from 99° to 100·2° (for four hours), and by the next day was quite normal. On the seventh day uterine action set in, and a fœtus weighing 1 lb., with a placenta 6½ oz., was expelled in a few hours. The patient had an uninterrupted convalescence, got quite rid of the pain, and returned home on Feb. 16th, much gratified with the result. Some there are, probably, who will say this was a simple uterine pregnancy. I think a careful study of the history will not support that contention. There can be no doubt that the uterine cavity did not contain the fœtus in the first instance, for both Mr. Tapson and myself were agreed that the body of the uterus could be distinctly defined at our first examination. The conclusion I have come to is that the ovum was arrested in the uterine extremity of the tube, and gradually worked its way into the uterine cavity. This view is supported by a case reported in THE LANCET of Jan. 16th, 1886, by Dr. Alexander Hay, and by another brought before the Obstetrical Society of London in October, 1885, by Dr. Grün, in both of which the physical signs very much resembled my case in its early stage. On submitting this report to Mr. Tapson, he replied, under date Dec. 10th: "I have nothing to add except that I saw her (Mrs. R.) about a week since, and she is in better health than she has been for years."

The sixth case was that of a single lady aged twenty-three, who till within a year had enjoyed good health. On dividing the peritoneum, which was very much thickened, a small quantity of a clear amber-coloured fluid escaped, and a very thin and delicate membrane presented, within which was contained a whitish flocculent fluid to the amount of two pints. No intestine was seen, but on removing as much as possible of this membrane the exposed surface presented a glistening and injected appearance. The cavity appeared to be limited by adhesion to the parietes. It was washed out with warm water, and the wound completely closed. The disease appeared to be of a tubercular nature. On the evening before operation the temperature was 100·6°, and it rose to the same height on the same evening, but for the next two days was nearly normal; it then began to rise in the evening for about ten days. At the end of three weeks she was out of bed, and when about to return home she complained of hypogastric pain, and on the twenty-third day a small quantity of fluid, similar to that removed at the operation, escaped. The temperature then became normal, and she returned home on the thirty-first day with a small sinus. This had not closed when I last heard of the patient, at the end of November, though she was then in very good health.

The seventh and last case was that of a married sterile

woman, aged fifty-one, whose case had been a puzzle to more than one, at one time presenting the signs of a cyst and at another those of ascites. As the latter had become predominant, and no definite explanation could be offered of this condition, I decided to explore rather than tap the patient. I operated on her on Nov. 10th last, removing ten pints of free fluid. There was no disease of the pelvis or abdomen to account for the fluid. The body of the uterus appeared to have completely atrophied, and what should have been the body of that organ formed the floor of the pelvis. No ovary could be found. At the splenic flexure the colon adhered to the parietes. The temperature remained normal, and when the patient left the hospital on the nineteenth day there was no reaccumulation of fluid.

Incomplete operation.—A married sterile lady, aged forty-five, consulted me on Sept. 16th, 1885, complaining of a dragging pain in the pelvis, a severe pain in the region of the bladder, frequent micturition, and sometimes retention of urine. On examination, an elastic mass filled the pelvis, bulging down into the vagina, and pressing the uterus upwards and forwards, close up behind the pubic symphysis. The cervix was almost obliterated; the uterine cavity measured two inches and a half, and was directed to the left side. I recommended operation, though I could not urge it, and the patient preferred to wait for two or three months. She returned at the end of December with all her symptoms much aggravated, especially the bladder trouble; and having made up her mind for active treatment, I operated on Dec. 26th. The pelvic tumour was then distinctly fluctuating. On opening the abdomen, the first thing that presented itself was the right Fallopian tube close to the cornu of the uterus, forming a mass as large as a hen's egg, and having a knuckle of intestine very intimately attached to it. On separating these, the muscular coat of the intestine was laid bare, and the edges of the peritoneum were brought together by several points of continuous suture. In the course of the separation the tube was opened into and seen to contain papilloma. External and posterior to this was a cyst with thin walls, which was aspirated, and yielded about half a pint of a thin fluid like weak tea. An attempt was now made to separate the collapsed cyst, and in doing this another cyst, deeper in the pelvis, was opened, with the escape of a similar fluid. I was, however, obliged to desist from the attempts at separation, and had to be content with freely laying open the cysts and removing a portion of cyst wall together with the papillomatous portion of the tube. I then washed out the cavity with warm water, put in a drainage-tube, and closed the wound. The patient went on very well for forty-eight hours, then the urine became scanty, the pulse rapid, the temperature rose to 102°, and the mind was obscured. With the decreasing urinary secretion, which ultimately ceased, the pulse increased in rapidity, with a falling temperature, the patient became comatose, and died towards the third day. No post-mortem examination was obtained. This case, I think, illustrates the danger of delay when there are symptoms of urinary pressure and obstruction. I have already spoken of the papilloma, and it is scarcely necessary to point out the necessarily fatal character of the disease, which must in a very short time have opened into the intestine.

This case, then, constitutes the last of the consecutive series of one hundred cases of abdominal section—consecutive not in point of date, but according to the table. All of them were performed between Feb. 13th, 1885, and Nov. 17th, 1886, inclusive, and without any of the so-called antiseptic precautions; some of the hospital cases were done whilst patients were dying of septicæmia in neighbouring wards, and I did not adopt the precaution of hanging up a wet carbolised sheet over the door. But the greatest care was taken to ensure cleanliness, which I described some years ago as "the most efficient of all antiseptic systems and the only perfect one." That, I think, is borne out by the results. It would be foreign to my purpose to institute any comparison with the results of other operators. The above narrative of one hundred consecutive cases is a statement of facts at the service of those who have a mind to exercise their ingenuity in the manipulation of statistics.

Granville-place, Portman-square, W.

AT a well-attended meeting of the governors and friends of the Charing-cross Hospital on the 9th inst., a committee was appointed to organise a special appeal on behalf of the funds of the institution.

CASE OF

GOITRE, FOLLOWED BY ASPHYXIA; TRACHEOTOMY; DEATH.

BY J. B. HURRY, M.A., M.D.

EMILY B——, aged thirteen, when first seen, was suffering from a goitre of very moderate dimensions, which had been growing for a year. No history of goitre in the family. The first symptoms appeared about Nov. 3rd, 1886, when the girl began to complain of dyspnœa, stating that it obliged her to rise early in the morning. This continued till Nov. 7th, when Mr. Christian of Reading (to whom I am indebted for permission to use these notes) was sent for, who saw the girl at 12 noon, and found her with some, but not urgent, dyspnœa; the breathing was noisy, but not stridulous; no signs of inflammation or feverishness; she ate well that day. At 11.30 P.M. the same day, Mr. Christian was again sent for, and on arrival found the girl in a state of extreme dyspnœa, and only partly conscious. He immediately came for me to assist him, and we both returned as quickly as possible, provided with the means of performing tracheotomy. On reaching the girl's house at 12.30 A.M. on Nov. 8th, all the signs and symptoms of asphyxia were present: the face was pale; conjunctival reflex almost abolished; complete unconsciousness; breathing excessively laboured. Mr. Christian proceeded at once to open the trachea between the cricoid and the enlarged isthmus of the thyroid gland. No anæsthetic was necessary, owing to the state of unconsciousness. On making the superficial incision, much venous hæmorrhage occurred; as soon as this had for the most part ceased, and the girl evidently being at point of suffocation, the trachea was incised, and a small silver tube rapidly introduced. Air passed in and out through it, but not freely, and a moderate amount of blood came with it at first. A larger tube was therefore substituted, but even then the breathing appeared very obstructed. The tube was kept clear by a feather, but the breathing was far from satisfactory; indeed, the asphyxia became more and more complete, till at about 2 A.M. on Nov. 9th (i.e. about half an hour after tracheotomy) death occurred.

I made the post-mortem examination on the same day, at 6 P.M., by removing the larynx, œsophagus, and the entire thyroid growth. On dissecting the mass, and opening the larynx and trachea from behind, nothing abnormal was found, except a moderately large goitre and a bilaterally compressed trachea. The incision made by the tracheotomy began immediately below the cricoid, and measured about two-thirds of an inch in length, two rings being cut through. A short distance below the incision, the trachea was considerably flattened from side to side for the distance of an inch; both walls were affected, but the left one most; instead of being convex outwards, it was slightly so inwards. There was no softening or kinking of the trachea. On introducing the tracheotomy tube as it would have lain during life, the lower end was found to reach nearly to the lower portion of the region of flattening. The tumour itself was nearly symmetrical on the two sides. The isthmus was continuous with the right lobe, but separated from the left by a groove; it measured one inch from above downwards and also from before backwards, and began immediately below the lower end of the incision. Each lobe was about as large as two hen's eggs; together they entirely encircled the trachea, and behind it came into contact for about the surface of one inch in an antero-posterior direction, and two inches from above downwards; they separated the œsophagus from the trachea. On making incisions into the thyroid, the tissues were uniformly firm; there were no cysts visible to the naked eye, nor any softened portions. On bringing the two lobes into the position they occupied during life, the lumen of the trachea was seen to be reduced to a narrow antero-posterior slit (the *Säbelscheide* of the Germans). The relation of the recurrent laryngeals to the growth was unhappily not noted.

Remarks.—This is one of the few recorded instances of sudden death from goitre, and the interesting question arises, What is the cause of death? No perfectly satisfactory answer has been given, especially in regard to the cases where (as in the above) there is no evidence of sudden increase in size. The view generally adopted is, I believe,

that the enlarged thyroid mass presses on the recurrent laryngeal nerves, and thus leads to closure of the glottis, and it has been proved experimentally that when these nerves (which supply both dilators and constrictors) are stimulated, the constricting muscles overpower the dilators and close the glottis. This view, however, hardly explains why a condition of very slight dyspnœa sometimes becomes suddenly intensified, and may lead to sudden death (in a case published by Seitz of Zürich death occurred in two minutes after the commencement of the severe dyspnœa). Another explanation occurred to me, while dissecting the muscles from off the growth, especially the sterno-hyoids and thyroids, which pass over the thyroid gland, and were found well developed in the above case. Suppose for a moment that the gradual enlargement of the growth causes some dyspnœa by pressure on the trachea or recurrent laryngeals. This will produce no special trouble, till suddenly one day, perhaps after an unusual muscular effort, the dyspnœa is sufficient to call the sterno-hyoid and thyroid (and possibly mastoid) into action, in their capacity of supplementary inspiratory muscles. These muscles, when contracted, will press the lateral masses of the gland down upon the trachea (which in this instance was already greatly narrowed), and thus increase the dyspnœa; this dyspnœa must, again, throw the muscles into greater activity, and thus a "vicious circle" might be set up, one factor increasing the other, and rapidly leading to a fatal issue. The same sequence of events may possibly occur where the muscles above mentioned and the recurrent laryngeals are the efficient agents, and where therefore death is due to closure of the glottis.

Reading.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. GEORGE'S HOSPITAL.

A CASE OF CEREBRO-SPINAL MENINGITIS; RECOVERY; REMARKS.

(Under the care of Dr. EWART.)

THIS case is of some interest, as being a sporadic case of cerebro-spinal meningitis, which recovered, but retained the permanent sequelæ left in cases of the epidemic form. For the notes we are indebted to Dr. Griffiths, medical registrar.

W. T——, a carpenter, twenty-nine years of age, admitted Sept. 17th, 1886, had a family history of good health, and had always been himself strong and well. He worked in a carpenter's shop, under, so far as could be ascertained, good sanitary conditions. He had had no injury or blow, nor did he remember to have "taken cold." He first felt dull and heavy on Sept. 10th, and next day had rigors with much frontal pain, and some pain about the nuchal region; no vomiting, but there was obstinate constipation. On the 12th both eyes were inflamed, the inflammation increasing rapidly. On the 14th he lost the sight of the right eye, and on the 15th that of the left. Delirium set in on the 13th, with high temperature.

He was admitted on the seventh day of the illness, and presented a condition of much prostration, with subsultus tendinum occasionally. He had a coated tongue; the pulse was 88, the temperature 102°, and the respiration 24. He had much difficulty in bending the neck, and had some retraction of the head. He presented much chemosis, with turbidity of the cornea, and tension in both eyes was −2. His heart showed slight hypertrophy, with a general soft systolic murmur. There were no adventitious sounds over the lungs, and no enlargement of the abdominal viscera. His urine was high-coloured, sp. gr. 1024, but non-albuminous; and he was passing loose green stools in bed, having been given a purgative before admission. His deep reflexes were about normal; tache cérébrale well marked; an apparently normal abdomen.

The man remained in an apathetic state for three days, when he began to mend. His temperature was irregular—the maximum 103°; his pulse-rate averaged 108, and was quite regular. At no time had he any vomiting, and only slight pain in the neck, the chief seat of pain being in the frontal and occipital regions. His eyes showed gradually less chemosis, but the pupils dilated irregularly under atropine, points of lymph being seen on the anterior surface of the lens; the media, however, continued to be thick, though the corneæ regained to a great extent their transparency. On Sept. 21st he had slight improvement in vision, and the media seemed slightly less thick, but he could only distinguish between light and shade, and by degrees this power diminished until he became absolutely blind. His general condition began to improve on the ninth day after admission, his temperature being then normal, and remaining at that level; and though he suffered from frontal headache, he continued to improve until discharged. He was then in fair health, but was completely blind, the media being quite thick and precluding ophthalmoscopic examination. He was treated during the acute stage with an ice-bag applied to the head and neck. He was given two drachms of solution of perchloride of mercury and ten grains of iodide of potassium every four hours, while a strong solution of atropine was applied to the eyes, at first frequently, but only twice daily after the second day. Six ounces of brandy were given daily at first. Later on aconite and belladonna liniment was painted over the forehead to relieve pain, and he was put on tonic treatment till his discharge.

This patient presented all the points of a case of cerebro-spinal meningitis, though many not of a marked character. His condition on admission was more that of prostration than of actual collapse, but the rapidity of onset, want of exciting cause, retraction of head, and progressive ocular symptoms all confirmed the original diagnosis. Among the many interesting papers written on the subject, we would especially refer to Dr. Wilson's paper in the *Dublin Quarterly Journal* for May, 1867, in which, though speaking of the epidemic form of this disease, he describes the ocular symptoms from conjunctivitis through suppurative choroiditis to amaurosis, either from collapse of the globe, detachment of retina, or actual atrophy of the same.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, CITY ROAD.

CASE OF EMPYEMA; FREE INCISION AND DRAINAGE AT LOWEST POINT; RAPID RECOVERY.

(Under the care of Dr. OSWALD BROWNE.)

FOR the notes of this case we are indebted to Mr. Harold Simmons, house-physician.

C. G——, a well-nourished girl, aged eight, was admitted from the out-patient department on Sept. 8th, 1886, giving a history of four months' illness, commencing, after unusual exposure, with rigor and cough, and marked by gradually increasing shortness of breath, pain in the left side, emaciation, and weakness. She had had no previous illness, nor was there any history of hereditary tubercular tendency.

Condition on admission.—Her face was pale and somewhat livid; lips bluish; respiration hurried and shallow, 40; pulse small and soft, 128; temperature 102°; skin moist. Thorax: The left side scarcely moved with respiration, the intercostal furrows were obliterated, and there was bulging of the upper walls of the chest; the percussion note was absolutely dull all over the side, and the respiratory murmur absent, except some distant tubular breathing audible at the extreme apex above the second rib, and some faint sounds along the spine at the inner border of the scapula. No tactile vocal fremitus was perceptible, and the voice sounds, feebly heard at the apex, were totally inaudible below. The right side was resonant; respiration loudly heard, and accompanied posteriorly by sonorous rhonchi. The heart's impulse could be felt in the right nipple line, one inch below the nipple, and the cardiac dulness extended thus far and joined the general dulness on the left side, its upper limit being the third cartilage; the heart sounds were loud and clear. The liver margin was an inch below the costal border in the right nipple line; the spleen not perceptible. Urine acid, containing no albumen.

Sept. 10th.—She was considerably more distressed and cyanosed, temperature had continued at 102°, and there had

been abundant expectoration of thick purulent sputa. An exploratory puncture of the left side procured thick pus.

Operation.—Chloroform having been administered, a short incision was made into the chest in the fourth intercostal space in the anterior axillary line, and through this a shortly curved rigid urethral sound passed as far as possible down and somewhat backwards, its point being projected in the ninth space in the line of the angle of the scapula, and on it a second incision made; on digital examination the finger entered the pleural cavity, a mass of soft adhesions being perceptible immediately in front of the incision; a large quantity of pus escaped freely. A drainage-tube about three-eighths of an inch in diameter and six inches long having been inserted in the lower opening, the upper wound was closed by sutures; there was little hæmorrhage. The side was dressed with carbolic gauze, the spray having been used throughout. The child had been extremely faint during the later stages of the operation, but revived quickly. The dressing was changed the same evening, the discharge being thin, blood-stained, and profuse; the patient in little pain, warm, and comfortable. Temperature 100·8°.

Sept. 12th.—Re-dressed; the dressing contained about four ounces of blood-stained pus, free from odour; the tube clear. The heart's apex was to the left of the sternum. Temperature, morning, 98°; evening, 99·8°. Expectoration of yellow sputa still continued.

13th.—The upper incision had almost healed; stitches removed and tube shortened. Temperature 99·2°.

15th.—Discharge less. The whole of the side was fairly resonant; over the upper half respiration could be well heard, but harsh and accompanied by coarse friction; at the base the breathing was audible, but distant; the heart's impulse was close to the left nipple line, the dulness reaching to the mid-sternum to the right.

16th.—Cough slight, and expectoration much less. Bowels had been extremely constipated. One-tenth of albumen was found in the urine. A mixture containing sulphate and carbonate of magnesia was ordered every morning.

17th.—She had passed a large quantity of uric acid in big crystals. Ordered eight grains of bicarbonate of potash three times daily.

20th.—The discharge had lessened much, and the general condition had much improved. The tube was again shortened. A trace of albumen still existed in the urine.

22nd.—The side had fallen in considerably; there was fair resonance all over and free air entrance in the upper two-thirds; the apex beat in the fifth space, one inch outside the nipple line. Bowels still very costive. Five minims of liquid extract of cascara sagrada ordered.

25th.—Discharge very scanty. The tube left out.

27th.—The spray was discontinued. Wound superficial and healing rapidly. There was no evidence of re-collection.

Oct. 5th.—Granulations pale and œdematous; a probe would not pass. She had no cough or expectoration, and felt quite well.

On the 21st the wound had quite healed, and on the 28th the patient left the hospital. The left side, sunken considerably, especially over the apex in front, yielded a resonant note of good quality; respiration was heard well all over, and free from adventitious sounds, except some coarse crackling with inspiration at the extreme base. Her temperature never rose higher than 99·2° after Sept. 13th, and albuminuria ceased on the 25th. She continued to pass uric acid occasionally.

Jan. 10th, 1887.—The child attended at the out-patient department. She had gained strength, weight, and colour. The affected side was more flattened anteriorly and posteriorly; breathing was loud and clear to the extreme base.

SEAMEN'S HOSPITAL, GREENWICH.

SURGICAL CASES OF INTEREST, WITH REMARKS.

(Under the care of Mr. G. R. TURNER.)

CASE 1.—*Sequel to a successful case of Fractured Patella treated by Wiring.*—William W——, aged twenty-five, a sailor, fractured his right patella whilst at sea. He had no treatment for twelve days, and was then in a foreign hospital for a month. The fracture was treated by strapping and a plaster-of-Paris splint. He left the hospital in a month's time, and then came under the care of Mr. Mayo Robson of Leeds, in June, 1885, four months after the accident. He had an ununited fracture of the patella, with an inch and a half's separation of the fragments. His limb was very weak, and perfectly useless to him. Mr. Robson cut down on the fragments and wired them together. Great difficulty was experienced in approximating them, the lateral expansion of the vasti and the quadriceps requiring division. The wound ran an aseptic course, and he was made an out-patient in September. He could walk freely, could flex his knee nearly to a right angle, but complained of a little pain below and to the outer side of the patella. A note says: "This may be due to some of the gold wire sutures which were not removed." On leaving Leeds he went to sea, and whilst on board ship fell and hurt his knee again, and was taken to a hospital at Sulina and treated. After this he came to the Seamen's Hospital, Greenwich. He had almost perfect use of his knee, and the patella appeared soundly united. Protruding from a sinus on the outer side of the joint was a wire, which he said had been catching his trousers as he walked since his last accident. There was a little suppuration around. On April 1st he complained of considerable pain in the knee-joint, which became rapidly distended with fluid. His temperature rose to 104°; pulse 128. The face and body were covered with an erythematous rash. On seeing him the next day, Mr. Turner, with full antiseptic precautions, laid the joint freely open on each side of the patella and introduced a drainage-tube. The fluid that escaped consisted of turbid lymph, hardly to be called purulent. The distension of the joint was very great before the operation. The projecting wire was removed; it could be traced in the cavity of the joint to just below the patella, and was there lost. The man's temperature and pulse rapidly fell nearly to normal after the operation, and the wound ran an aseptic course. His convalescence was interrupted now and then by epileptic fits, to which he was subject. Two other wires became prominent under the skin, and one projected through it. These were dissected out on the 4th of July, and he shortly afterwards was up and about. After he was discharged he again fell down (? in an epileptic fit), and refractured the same patella very close to the insertion of the ligamentum patellæ. This fresh accident brought to light yet another wire, which was removed in September, and the man shortly afterwards left the hospital. He could walk perfectly, and could bend his knee to more than a right angle. He could not, however, perfectly extend it, as there was some slight wasting of the quadriceps—not sufficient, however, to interfere in any way with his activity. It should have been mentioned that his second fracture was treated simply by rest and strapping, the lower fragment being obviously too small for wiring, even had such a proceeding been contemplated.

Remarks by Mr. TURNER.—This case (the notes of which were kindly sent to me by Mr. Mayo Robson) is of interest, I think, as showing how troublesome, and even worse, wires may become if the knee which contains them is subjected, as in this instance, to renewed injury. The man's frequent accidents were no doubt due to his epileptic tendency. His present condition is, on the whole, satisfactory. At one time he was very near having acute suppuration of the knee-joint. Timely incision into the tense distended joint at once reduced his temperature from 104° to 100°, and materially improved his general condition. The wires were troublesome to remove, and were not finally got rid of for some considerable time. Mr. Mayo Robson used but three gold wires to suture the patella. I must have had to deal with two fragments of one of these. The strength of the osseous union obtained by their means is shown by the second fracture occurring below instead of at the seat of the first.

CASE 2. *Compound Comminuted Fracture of the Ulna into the Elbow-joint: recovery with a movable joint.*—Wm. C——, aged thirty, presented himself at the hospital with a wound leading down to a comminuted fracture of the ulna at the junction of the olecranon and coronoid processes due to direct violence. Two loose fragments of bone were removed by enlarging the wound, and the parts and joint were washed out with carbolic lotion. The wound ran an aseptic course, and healed shortly after a drainage-tube that had been introduced into the joint on his admission was removed. Passive motion was then daily employed. Shortly after commencing this a peri-articular abscess formed, and was opened. A second abscess appeared later on, and was likewise opened. As soon as it was possible passive motion was again practised, and the patient encouraged to use his elbow. He remained in hospital doing

work about the place for three months or so. He suffered from pain referred to the distribution of the ulnar nerve. He was of a very sensitive nature, or there is no doubt his progress would have been more rapid. When last seen the relations of the olecranon to the condyles of the humerus were normal. An inch below this process is an irregular transverse depression indicating the seat of fracture. There is a depressed cicatrix at the site of the old wound, and the bone beneath is somewhat irregular. He can flex the elbow so as to touch his shoulder with the tips of his fingers, and extend it to an angle of 150°. The radius can be rotated, and both flexion and extension are "getting better every day." The joint is very strong; he "can carry four gallons easily," or "with another man can lower thirty gallons of rum." All the symptoms referable to the ulnar nerve have disappeared.

Remarks.—This result to a compound comminuted fracture into the elbow-joint is a very satisfactory one, and better than if a formal excision of the articulation had been practised.

CASE 3. *Dislocation of the Foot backwards.*—Henry H——, aged sixty, was knocked down in a scuffle, and fell with his right foot under him. On admission, the dorsum of his right foot was considerably shortened and the heel correspondingly lengthened. The foot was at right angles to the leg, and the lower end of the tibia very prominent; the fingers could almost be placed under the anterior edge. The internal malleolus was fractured and carried backwards with the astragalus. Reduction was easily effected by extension and then carrying the foot forwards. The position was then good. The man recovered, with some increased width between the malleoli.

The interest of this case rests solely on the rarity of backward dislocations of the foot.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Fibroma of Ovarian Ligament.—Metastatic Carcinoma of Prostate.—Large Dermoid Cyst over Sternum.—Gall-stone causing Obstruction of Bowel.—Cystic Disease of Testicle.—Multilocular Cystic Epithelioma of Jaw.—Cystic Epithelioma of Neck.

AN ordinary meeting of this Society was held on Tuesday last, Sir James Paget, F.R.S., President, in the chair.

Mr. SHATTOCK read for himself and Mr. R. W. Parker the report of the Morbid Growths Committee on Mr. Butlin's case of Recurrent Tumour of the Breast. It had a foliaceous aspect, like some cases of adeno-sarcoma of the breast, but the histological characters of the growth were those of villous carcinoma originating from the ducts, as distinguished from the acini.

Mr. ALBAN DORAN showed a small Spherical Tumour in the Substance of the Left Ovarian Ligament. A microscopic section was also shown. It proved that the tumour was made up of plain muscular fibres, mingled with white fibrous tissue; in fact, it was a "fibroid" precisely similar to several other fibroid growths which, in this case, were found in the uterus. The ovarian ligament was a prolongation of uterine tissue, its fibres passing into the parenchyma of the ovary. Hence it was subject to fibro-myoma, like the uterus, whence it was derived; and hence, also, fibro-myoma was sometimes developed in the ovary into which it ran. It was probable that fibro-myoma of the ovarian ligament had been sometimes mistaken for a so-called supernumerary ovary. In this case the latter condition existed on the right side.—Mr. SHATTOCK said that he often had a difficulty in differentiating fibrous tissue from plain muscular tissue in examining ovarian tumours.—Mr. ALBAN DORAN, in reply, said that he sympathised with Mr. Shattock's difficulty, but thought that well-marked nuclei such as might be seen in plain muscular tissue in the uterus of the new-born was diagnostic, and these were also to be found in incipient myoma of the ovary.

Mr. HURRY FENWICK showed a specimen of Metastatic or Secondary Carcinomatous Deposit in the Prostate. He could only find four examples of this class of carcinoma of the gland in medical literature (Mercier, Langstaff, Guyot, and Lebert). In three of these cases the primary growth was found in the stomach; and in the last the dura mater was the site of the initial deposit. The specimen was removed from a man aged twenty-six, whose first symptom was great lumbar pain. The duration of the entire illness was two months and a half. The spinal cord finally became attacked, and paraplegia ensued. The necropsy revealed the lung to be primarily affected, and the liver, spleen, kidneys, prostate, and cord secondarily. The growth was of the "scirrhoid" type.

Mr. H. H. CLUTTON showed a large dermoid cyst removed from over the sternum in October, 1886. The subject of it was a married woman aged thirty-nine. The tumour was noticed at the age of six weeks to be of the size of a pea. At ten years it was tapped, but no fluid withdrawn. At nineteen it was of the size of a hen's egg. It remained stationary for many years, but during the last five years it had grown to twice the size. The tumour hung in a pendulous fashion from the sternum on a level with the breasts, and measured thirteen inches in circumference. The entire cyst was removed. Its lining membrane appeared to be of cutaneous structure, and one hair could be seen projecting from its surface. Microscopically, neither sebaceous glands nor hair follicles could be found. The contents, which measured eleven ounces, were composed of epidermis, cholesterine, and fat.—Mr. F. S. EVE had examined several dermoid cysts which did not contain sebaceous glands or hairs. Dermoid cysts occurred in various situations, as over the scapula, where they were in no relation with the branchial clefts or with the middle line of closure. They originated from displacement of epiblast.—Dr. ANGEL MONEY referred to a case (recorded in the *Journal de Médecine de Bourdeaux*) of apparent dermoid cyst communicating with the central canal of the spinal cord at the level of the lower end of the cervical enlargement.—Mr. STEPHEN PAGET said that in hairy chests there was regular parting of the hair at the angulus Ludovici, the hair above growing upwards and below growing downwards.—Mr. J. HUTCHINSON, jun., said that he had met with three cases of dermoid fistula in the middle line at the junction of the nose and forehead.—Mr. BLAND SUTTON said that the situations mentioned by Mr. Hutchinson was a common site for meningoceles.—Mr. HUTCHINSON, jun., said the cases he referred to were undoubtedly dermoid cysts, and not meningoceles.—Sir JAMES PAGET had removed three such growths, and in none was there any connexion with the interior of the skull; but in one case a pedicle extended between the nasal bones. They were undoubtedly dermoid. One case was also associated with a spina bifida. There was sometimes an unusual growth of the dermoid cyst at the time of puberty, when there was a greater activity of the organs derived from epiblast.—Mr. A. A. BOWLBY had observed two undoubted dermoid cysts in the area of junction between the nose and forehead.—Mr. CLUTTON said there was no evidence of increased growth until the patient got married. He had removed two dermoid cysts from the forehead at the root of the nose. Such cysts occurred in any part of the body, though most commonly in the middle line or along the lateral fissure.

Dr. PYE-SMITH showed a large Gall-stone removed from a lady aged seventy-eight, who had never had jaundice, but suffered from increasing constipation, which culminated in obstruction. Examination per rectum revealed something abnormal, which was regarded as possibly carcinomatous and situated above the sigmoid flexure. It was very movable. After thirteen days' obstruction the stone was passed and the patient remained free from trouble. A second larger stone of cylindical shape was also shown. It came from a woman aged sixty, in whom constipation never proceeded to complete obstruction. The date at which the communication between the duodenum and gall-bladder occurred was unknown.—Mr. J. HAMMERSLEY said that the patient in the first case remained perfectly well.—Mr. SHATTOCK mentioned a fatal case of complete obstruction from gall-stone. It was an unpublished case of Dr. Bristowe.—Dr. COUPLAND thought it unlikely that any subsequent difficulty would occur, for the opening into the duodenum from the gall-bladder must be large to have allowed the safe passage of a stone of that magnitude.

Mr. EVE read a paper on Cystic Disease of the Testicle. It was based on a microscopic examination of twelve selected specimens, and a table of twenty-eight recorded cases in which a microscopic examination had been made. There

were three forms—cystic fibroma, cystic myxoma, and sarcoma, the second being intermediate between the other two. In the cystic fibromata the cysts and tubules were commonly lined with spheroidal or flattened epithelium, but some, in most tumours, with columnar, and in five specimens with columnar ciliated epithelium. Unstriped muscle was rarely, and cartilage generally, present in the fibrous stroma. Cystic myxomata were composed of mucous and fibrous connective tissue, containing tubules of columnar, ciliated, and occasionally flattened epithelium—very like the same tumours in the breast. In cystic sarcoma the cysts were a less prominent feature, and more commonly lined with columnar than flattened epithelium. The characteristic components of cystic fibromata—viz., ciliated epithelium, unstriped muscle, and cartilage—were present in sarcomata, and in three cases striped muscle was found. After reviewing the evidence regarding the origin of tumours, the following conclusions were stated:—1. No specific difference exists between innocent and malignant cystic tumours. 2. They originate in the hilum testis. 3. There is probably a new formation of epithelium, or adenomatous growth. 4. The prototype of this is found in the tubules of the vasa efferentia, rete testis, and coni vasculosi, which are formed from the Wolffian body. 5. There are grounds for believing that the epithelial formations in cystic tumours originate from certain outgrowths from the Wolffian body described by Klein as interstitial cells, and normally occupying the hilum. 6. It is incorrect to attribute their origin to the organ of Giraldès, as this lies outside the testicle.—Mr. C. B. LOCKWOOD said that a perfect series of complete transverse sections through the organ would be the best way of determining the relations of any relics of the Wolffian bodies.

Mr. A. A. BOWLBY exhibited a specimen of Multilocular Cystic Epithelioma of the Jaw. The patient was a woman aged twenty-four, in whose lower jaw on the left side the tumour began to grow at the site of a decayed molar tooth. It was removed by Mr. Walsham, but one year later it began to recur. It had grown both outwards into the masseter muscle and inwards into the mouth, which could not be shut. The duration of the case was twelve years and a half. The cysts contained a reddish-brown blood-stained fluid. Microscopically, the growth was composed of fibrous tissue, into which the processes of epithelium of cylindrical, spheroidal, and flattened sort grew. The cysts originated from the epithelial ingrowths. The specimen corresponded closely with those described by Mr. Eve.

Mr. QUARRY SILCOCK showed three cases of Cystic Epithelioma of the Neck. Case 1: A man aged thirty-two, was admitted into St. Mary's Hospital with a large inflamed suppurating swelling under the lower third of the left sterno-mastoid muscles; he had first noticed a small lump in that situation about three months earlier; it was painful, and the patient, who was a strong healthy man, began to lose flesh and strength. The swelling had been opened, and after admission Mr. Owen scraped away large portions of the growth, with temporary relief. After death, though no complete necropsy was allowed, it was ascertained that the growth occupied the posterior as well as the anterior triangle, and infiltrated all the structures. There was a large cystic cavity lined by large papillary granulations, which were found to consist almost entirely of epithelial cells, the most highly developed being of the squamous type, but not prickled, forming well-marked nests and long columns running downwards into the mass of the tumour. The enlargement of lymphatic glands lying over the growth was found to be due to inflammatory irritation only. Case 2: A man aged fifty-six was admitted with a large, partly cystic, tumour on the right of the neck, which had been growing for about five months. He was emaciated. The cyst was incised by Mr. Pepper, and a quantity of glairy yellow fluid escaped. The cyst, which was lined with papillary granulations, subsequently suppurated. Examination after death revealed the same macroscopical and microscopical appearances. Case 3: A man aged sixty-four, who was admitted with a large tumour on the left side of the neck lying in greater part beneath the sterno-mastoid muscle, but involving both triangles; it extended from the jaw to the clavicle, to the middle line in front, and to the mastoid process posteriorly. Mr. Silcock tapped the cyst several times, and drew off a thick, yellow, grumous fluid, which was found to contain numerous large epithelial cells, which left little doubt that the growth was of the same character as in the other two cases, from which he was able to show specimens. In none of the cases was there any evidence of a primary growth elsewhere. He thought the only hypothesis which could be entertained was that they owed their origin to the development of some belated portion of epiblast, perhaps the representative of a branchial cleft, although the advanced age of the individuals in whom they were usually found appeared to negative such a supposition.

The following card specimens were shown:—Mr. Godlee: Malignant Disease of an Undescended Testis with Secondary Growths. Mr. Stonham: Pelvis of a Child with Persistent Fœtal Condition of the Peritoneum. Mr. F. W. Clark: Subpleural Lipoma of Diaphragm. Dr. A. H. Robinson: Drawings of Charcot's Joint Disease. Dr. Ormerod: Subdural Hæmatoma. Dr. Maguire: Bullet Wound of Heart passing through the Left Ventricle.

CLINICAL SOCIETY OF LONDON.

Pneumothorax with Recovery in the apparently Healthy.—Intra-peritoneal Excision of Rectum.—Gymnastic Treatment of Scoliosis.

AN ordinary meeting of this Society was held on Friday, the 11th instant, Dr. W. H. Broadbent, President, in the chair.

Dr. DE HAVILLAND HALL communicated a case of Pneumothorax which he had had under observation, with notes of four other cases. Case 1: F. R. P——, aged twenty-four, was sent to Dr. de Havilland Hall by Dr. W. D. Penny on June 27th, 1885. The account given by Dr. Penny was that on May 8th the patient complained of sharp pain in the left side of the chest. In the mid-axillary line, low down, there was pleural friction with slight dulness on percussion and tubular breathing. The dulness only covered a very small area, and the rest of the chest was quite normal. Pulse 110; temperature 100·4°. The patient was sent home to bed, and next day there was hyper-resonance all over the chest and extending half an inch to the right of the sternum. Breathing replaced by amphoric roaring and loud tinkling, except that at the angle of the scapula the respiratory murmur was faintly audible. Heart sounds muffled, apex beat half an inch inside right nipple. Pulse 140; temperature 99°. The patient stated that while getting into bed he suddenly felt faint, and had a peculiar sensation about the heart. In the course of a month the symptoms slowly subsided, the heart returned to its natural position, and the breath sounds returned. A fortnight later there was a return of pain and shortness of breath. When examined by Dr. Hall the patient had just come from business. There was only slight complaint of pain, and there was not much dyspnœa. Pulse 120; heart sounds clear. Impulse in epigastrium. The left side of the chest hardly moved at all; there was general hyper-resonance and obliteration of the cardiac dulness. No breathing sounds were audible over the left side. The bell sound could not be elicited. The right lung was normal. The urine contained a trace of albumen. On Sept. 30th the patient was again examined, and both lungs were found perfectly free from disease. Case 2 (notes supplied by Mr. B. Rix, of Tunbridge Wells): J. W——, aged thirty-nine, mason's labourer, previously in good health, and in constant work for the past eleven years. While sweeping, he was seized with sudden pains just above the left nipple, and came over faint. He continued at work for five days, but owing to increasing dyspnœa and pain had to take to his bed on the fifth day. On examination, there were the physical signs of pneumothorax on the left side. He was under observation for seven weeks, during which time the heart gradually resumed its normal situation, the hyper-resonance disappeared, and normal breathing returned. Case 3 (recorded by Dr. Delagrange, *London Medical Record*, 1881, p. 196): A healthy youth, aged nineteen, while exhibiting the powers of his chest, suddenly felt severe pain in the left side; his face became blanched, and he experienced great oppression. During an effort to vomit he was seized with a sense of something tearing in his side, followed by syncope; there were unmistakable signs of pneumothorax. The patient recovered in about eight days. Case 4 (recorded by Biermer, *Würzburgher Med. Zeitschrift*, Bd. i., p. 385): K. D——, a law student, aged nineteen, while dancing, was seized with a peculiar sensation in the region of the heart, accompanied with giddiness, oppression, and sweating; when examined four days later, there were the physical signs of pneumothorax on the left side, accom-

panied by a moderate amount of liquid effusion. In seven weeks all objective signs of the pleural affection had disappeared. Case 5 (recorded by Ricker, *Wien. Med. Wochensch.*, March 28th, 1860): A badly developed young man of eighteen years of age, was seized, while coughing, with a stabbing pain in the left side. A week later he complained of considerable shortness of breath, and the physical signs were those of a pneumothorax. The distress increased so much that he was punctured, and the operation was followed by an alleviation of all his symptoms. Two months later, he presented a more healthy aspect than before his illness. After remarking on the comparative rarity of cases of pneumothorax occurring among the apparently healthy, Dr. Hall drew attention to the cases collected by Dr. Samuel West in a paper read before the Society in 1883, and to the cases reported to the Medical Society in March, 1886, by Dr. Whipham. Dr. Hall considered that the explanation of great preponderance of males over females in the subjects of this affection is to be found in the greater muscular exertion of males compared with females, and that, whatever might be the predisposing cause, the immediate cause of the pneumothorax is some strain. He had no doubt that in a majority of cases the rapid breaking down of a small tuberculous mass before a secondary pleurisy had had time to set up adhesions was by far the most frequent cause of pneumothorax. The paper concluded with some remarks on diagnosis and treatment.—Dr. S. WEST considered that Dr. Hall was right in styling his paper "Pneumothorax in the apparently Healthy," for the lungs were not perfectly normal. He referred to cases which originated in slight cases of phthisis. The pressure at which healthy lung would burst was very much greater than might be supposed. He was working at this subject experimentally. As to traumatic pneumothorax, he believed that its occurrence in association with fractured rib was rare, though surgical emphysema was common. He inquired as to the experience of surgeons in this matter.—Dr. BURNEY YEO thought that the title of the paper rather begged the question, for it assumed that patients were previously healthy. Dry pleurisy as a cause of this accident was not laid sufficient stress on by Dr. Hall. This form of pleurisy was frequently latent.—Dr. S. MACKENZIE related a case, seen with Mr. Drake of Stratford, that occurred in a graduate of a university who left the drawing-room after dinner to fetch a banjo; he was found seated on the stairs suffering severely. He had suffered some time previously from a "stitch in the side," which was probably due to pleurisy.—Dr. S. COUPLAND agreed that small patches of phthisical change and relics of small foci of tubercle of the lung were causes of this kind of pneumothorax. He had had under his care two cases of recovery. There was no evidence of phthisis in either of the patients, and their family history was good. They both followed a sedentary occupation. He did not think that much exertion was necessary to produce a rupture of the lung if there be a suppurating area. Coughing probably caused more violent strain on the lung than any muscular voluntary exertion. The first case was that of a clerk aged eighteen, whose right side was affected. In one month all the signs had disappeared. The second case occurred in a still more healthy-looking man, who five days before admission caught a cold, and three days later had pain in the side. When first seen the pneumothorax was well developed. At first no improvement resulted, but after leaving the hospital ten days all the signs had disappeared. The patients suffered very little from their affections after the first symptoms had subsided.—Mr. G. R. TURNER had not observed any cases of pneumothorax with fractured rib. He had seen a boy who had hæmoptysis, and who died from pneumothorax due to phthisis.—Dr. TYSON mentioned a case of emphysema due to pyæmia, the consequence of a sloughing ulcer of the leg in an elderly woman.—Mr. RIVINGTON had only met with two or three cases of pneumothorax of all the cases of thoracic injury he had seen during his long experience at the London Hospital.—Mr. HOWARD MARSH referred to a case of a boy who was run over and died with much dyspnœa and collapse. The lung was clean torn away from the bronchus on that side. He mentioned cases of ruptured lung from falls; in one a woman fell across the step of an omnibus, and the visceral pleura was found to be largely rent at the necropsy. He considered that pneumothorax was not unfrequent when the ribs were fractured.—Mr. B. PITTS had seen several cases of traumatic pneumothorax. In one case, that of a boy aged six years, aspiration gave much relief to the dyspnœa, but death ensued from inflammatory symptoms. Rupture of the lung, but no fracture of the ribs, was found at the necropsy.—Dr. WEST said that he had asked for information concerning the occurrence of pneumothorax with fractured rib.—Dr. BROADBENT had seen three cases of the kind. In one it occurred while the patient was taking a cold bath in the morning. All occurred in young men; two on the left side, and one on the right.—Dr. HALL, in reply to Dr. B. Yeo, said that perhaps the pleurisy was caused by the phthisis which also caused the pneumothorax.

Mr. FREDERIC S. EVE read a case of Intra-peritoneal Excision of the Rectum, with recovery. The patient, a woman aged thirty-four, had suffered from symptoms of cancer of the rectum for nine months. The growth encircled the rectum, and it was thought that the finger could be passed beneath its upper margin. The usual operation of excision was undertaken, but as the upper limit of the growth could not otherwise be reached, the peritoneal reflection encircling the bowel was divided, and the diseased portion removed with the écraseur. The bowel excised measured nearly six inches in length. The upper end was readily brought down to the anal margin. The patient is now, five months after operation, in good health. Good recovery, without symptoms of peritonitis. Remarks in recent researches on the experimental production of peritonitis tended to show that this operation should not theoretically be exceptionally dangerous, and that the limits of cases deemed fit for operation might be determined.—Mr. HARRISON CRIPPS considered that the title was a little misleading, for he had expected to hear that abdominal section had been performed. Speaking out of book, he should say that in one case in every five it was necessary to remove a portion of peritoneum in excision of cancer of the rectum. He said that he had not had a single fatal case of twenty-five operations, and in six of these the peritoneum was involved and excised. Immunity for two or three years often followed, when the lowest portion only of the rectum was affected; but if the disease extended higher up, six months was the average period of immunity.—Mr. GOLDING BIRD asked what power the patient had of holding the motion, to which Mr. EVE, in reply, said that there was no specific information on this point in the letter received from the patient. Mr. Eve was surprised to hear that the peritoneum was opened so frequently by Mr. Cripps, for in the latter's work only two cases were specially mentioned. The value of the method practised in the case read was to enable examination of the bowel to be made for a distance above the cancerous portion. He had left a considerable part of the external sphincter. In reply to Mr. C. Heath, he said that stitches were used to unite the bowel to the anus.

Mr. KEETLEY read a paper on Scoliosis, and said that, having received from Mr. Bernard Roth a paper on the results of the Gymnastic Treatment of Scoliosis, he asked that gentleman for permission to see the treatment. Mr. Roth consented, on condition that Mr. Keetley should send him a case (of the hospital class) for treatment. This condition being fulfilled, Mr. Roth (with Mr. Keetley's consent) exhibited the patient at the Clinical Society twice, once before and once after, a course of gymnastic treatment. (Mr. Roth's views of this case are stated—with illustrations—in the Clinical Society's Transactions.) Mr. Keetley, while acknowledging that the patient's spirits and muscular strength were improved by the gymnastics, states that she had lost in height, and that the scoliotic curves had undoubtedly increased during the treatment.—Mr. BERNARD ROTH said the patient had been sent to him by Mr. Keetley with a request to do what he could for her, and no intimation was given of an intention to read a paper until last Saturday; further, he had applied in vain to know what line of criticism Mr. Keetley intended to follow. He defended his history of the cases reported in the Transactions, and protested against Mr. Keetley's paper being published by the Society unless his answer was appended. The patient in question had suffered from lateral curvature for ten years, and had been under various treatments. In spite of plaster jacket &c., she had become frightfully deformed, and this had gradually got worse. He had told Mr. Keetley that he would do his best, and would make her independent of spinal supports in three months, though the osseous deformity would of course remain. He showed photographs and tracings of the ribs. The patient was shown at the Society in November, 1885, and again, after the three months' treatment, in March, 1886, and Mr. Keetley then made no objection. Both patients were pre-

sent, and had been examined by members. If his reply could not be appended, he would urge the appointment of a committee to report upon the cases, as well as on the case which he had shown in April, 1883.—Dr. BROADBENT thought that the best course would be to appoint a committee.—Mr. CHRISTOPHER HEATH said that the permission of the Council for the production of Mr. Keetley's paper at the Society would perhaps have been withheld if it had been known that the character of it was to be so entirely controversial. The Council gave permission for a paper on scoliosis generally. As the subject was of great importance to the profession at large, he thought that the appointment of a committee to inquire into the whole subject of scoliosis and its treatment would be a good step for the Society to take.—Mr. H. MARSH seconded Mr. Heath's motion, and thought that the pathology and treatment of lateral curvature was still in an undecided condition.—The committee was appointed, and consists of the following gentlemen:—Messrs. Christopher Heath, Howard Marsh, Walter Rivington, Warrington Haward, and R. W. Parker, the surgical hon. sec.

MEDICAL SOCIETY OF LONDON.

"Clottage" of the Ureters.—Certain Conditions of Bladder in Children.

AN ordinary meeting of this Society was held on Monday last, Dr. Hughlings Jackson, F.R.S., President, in the chair. The new Surgical Secretary, Mr. Bernard Pitts, took his seat at the presidential table, and Dr. Samuel West occupied the post of senior honorary secretary.

Dr. ORD proposed, and Mr. WM. ADAMS seconded, a cordial vote of thanks to Mr. Brudenell Carter for the admirable way in which he had fulfilled the duties of president during the past year. Mr. BRUCE CLARKE and Mr. MARMADUKE SHEILD did the honours of the vote of thanks to Mr. J. H. Morgan. Both votes were duly carried.

Mr. HURRY FENWICK submitted for criticism an operation which he termed "Clottage of the Ureters." The procedure consisted in an attempt on the part of the surgeon to "block" or "cork" up a ureter with blood clot. He argued from statistics that it ought to be performed in those cases where the surgeon has to combat profuse and uncontrollable hæmaturia from a kidney hopelessly crushed by an accident or affected with advanced carcinoma. He considered it a conservative operation, and one that ought to rank in front of the operation of nephrectomy. Mr. H. Fenwick's ureter aspirator[1] is introduced into the bladder. Suction is then practised on the ureter of the damaged kidney so that the blood clots are drawn into the eye of the instrument; light pressure is then made with the back of the instrument against the opposing finger in the rectum, thereby nipping the ureter lightly. Time is thus given for the blood clot to collect in the pelvis of the kidney. A case in which the operation was successfully performed was related. It was that of a man aged fifty-one with right renal carcinoma. The hæmaturia had lasted thirteen months; it had been intermittent and profuse. The urine remained free from blood from the time of the operation till his death six months later. No necropsy was made.—Dr. TUCHMANN thought it was impossible for the finger or any instrument in the rectum to nip the ureter. He handed round his own instrument for aspiration of the ureters.—Mr. HENRY MORRIS considered that Mr. Fenwick had introduced an ingenious thought. It would have been impossible, even had a necropsy been made, to have said whether the obstruction was due to the blood clotting naturally or to the result of the procedure practised by Mr. Fenwick. If hæmaturia from traumatism were not checked by ergot or hazel witch, the better treatment would be nephrectomy.—Mr. R. W. PARKER inquired whether the hæmaturia were due to the traumatism or to the malignant disease itself. He agreed with Mr. Morris that the *rationale* of this method was not clear. He questioned even whether actual clotting would stop the hæmorrhage.—Mr. BRUCE CLARKE said that it seemed to him that the best method of stanching the hæmorrhage was to cut down upon the kidney and to attack the bleeding vessel. He considered that it was almost impossible to be sure that the instrument would effect the desired object.—Mr. BERNARD PITTS agreed that the danger arose from intra-peritoneal hæmorrhage rather than from hæmaturia, in traumatic cases. In severe cases treated by rest, and without surgical interference, he had known casts of the ureters to be passed. The suggestion was made that the instrument might be used to clear out clots by aspiration, as for instance in attempting to cure some cases of hydronephrosis.

Mr. BRUCE CLARKE read a paper on Certain Conditions of the Bladder in Children. The roughened interior of the bladder was a far more frequent occurrence in children than adults, and the symptoms of stone were far more often present than a stone itself. Cases illustrative of these two facts were narrated. He believed that chilling of the surface of the body was an important causational element in these cases. The treatment of rest in bed, including universal warmth of the surface, with regulation of the diet and the administration of tonics, was mostly efficacious.—Mr. R. W. PARKER considered that text-books were often incorrect in the statement of the symptoms of stone in a child. He had known stone in girls to give rise only to tenesmus and dysenteric diarrhœa. Preputial irritation and tubercular disease of the bladder should be borne in mind in analysing the symptomatology of stones in the bladder.—Mr. MARMADUKE SHEILD had known malignant disease of the pelvis to be mistaken for stone. Retention of urine might be the only and first symptom of vesical stone in children.—Mr. HENRY MORRIS ventured to ask whether the condition described by Mr. Bruce Clarke might not be due to something very different from phosphates. In fact, in some cases he believed that the urine might have been over-acid in the first place. Might not errors of diet be a cause of the over-acid state of the urine, which led to the cystitis and alkaline urine?

[1] THE LANCET, Sept. 18th, 1886.

OPHTHALMOLOGICAL SOCIETY.

Ophthalmoplegia Externa.—Papillary Movement in Lateral Deviation.—Picture painted after Extraction of Cataract.—Fibroid Degeneration of Ciliary Muscle.—Paralysis of External Recti.—Associated Movements of Upper Lid and Eyeball.—New Formation in Vitreous.—Tubercular (?) Disease of Choroid: Extirpation of both Eyes.—Closure of Sclerotic Wounds by Conjunctival Sutures only.—Lateral Nystagmus.—Conjugate Palsy of Ocular Muscles and Nystagmus.

AN ordinary meeting of this Society was held on the 10th inst., Mr. J. Whitaker Hulke, F.R.S., President, in the chair.

The PRESIDENT announced that Mr. James Dixon, consulting surgeon to the Royal Ophthalmic Hospital, Moorfields, had presented a complete series of Von Graefe's *Archives*, from the beginning up to the year 1875.

Dr. C. E. BEEVOR showed a case of Ophthalmoplegia Externa without other symptoms. It was that of a woman aged forty, who had rheumatic fever six years ago, after which the right eye suddenly turned outwards, but it was doubtful whether the left eye was affected. The patient did not know that her eyes were fixed till told so. The up-and-down movements are weak, but there is almost complete paralysis of the lateral movements. There is a considerable degree of ptosis, probably due to the consensual movement of looking, which is very deficient. The pupils are equal, and react to light and accommodation; convergence is lost. The optic discs are normal. There was no history of syphilis, and no evidence of tabes, but some improvement has followed treatment with iodide of potassium.

Mr. MARCUS GUNN showed a case of Pupillary Movement in association with Lateral Deviation. The boy, aged ten, had a blow on the left eye with a cricket ball two years ago, which had left sight dim on that side. There is considerable lenticular opacity, and no fundus reflex; there is bare perception of light; projection is extremely defective, being accurate only outwards. On fixing a distant object with the right eye for some seconds, nystagmus commences in the left only, slight in degree, and lateral. On looking strongly to the left, both eyes exhibit nystagmic movements. On lateral deviation to the left both pupils contract, while they do not change on lateral deviation to the right, nor in association with any other muscular movement except convergence, when they act normally. Both pupils react well to light, but the left alone contracts feebly to exposure from the great defect of vision. The downward movement of the left eye is somewhat impaired, and on looking upwards the left is strongly divergent.

Mr. BRUDENELL CARTER showed a picture painted after recovery from Extraction of a Senile Cataract. The artist is about fifty-five, and was operated upon for mature senile cataract of the left eye in November. The right lens was at that time partially opaque, and became completely so by the end of 1885. It has not been operated upon, and the picture was painted in October, 1886, with the left eye only. The drawing of the lines about the upper part of the porch show the absence of astigmatism, the correcting lens being spherical only.

Mr. KAROP showed a case of (?) Fibroid Degeneration of the Ciliary Muscle.—Dr. BRAILEY was not satisfied that there was fibrous degeneration; it might be that the muscle had been displaced, stretched, and extended, but he said that there was an abnormal layer of nuclei; he did not say it was fibrous.

Mr. J. G. MACKINLAY showed a case of Paralysis of both External Recti, probably congenital. The patient was a girl, aged sixteen. There was no diplopia, nor has there ever been. No other muscles were affected. The pupils reacted well to light. Acuity of vision was greater in the left eye. There was astigmatism of both eyes. Partial deafness existed on both sides.

Dr. ERNEST CLARKE showed a case of New Formation of Vessels in the Vitreous Body.

Mr. BRUDENELL CARTER showed a case of Large Spontaneous Vitreous Hæmorrhage in a young man which had almost completely absorbed.

Mr. C. HIGGENS showed a case, in a boy aged seven, of Hæmorrhage in the Vitreous Body with a peculiar deposit behind the retina (? inflammatory).

Dr. SIDNEY PHILLIPS showed two cases of Associated Movement of the Upper Lid with Movement of Eyeball. The cases occurred in brothers, and was seen in one at the age of six months. The eyeball directed to one side, the opposite upper eyelid droops, and also on the side used, though this latter is rendered less apparent by an effort which contracts the occipito-frontalis muscle.

Mr. ROCKLIFFE related two cases of New Formation in the Vitreous: in the first case there was high myopia; in the second there was a history of a blow. There was no syphilis in either patient, and in each the eye was quite blind. He also narrated a case of Ossification of the Choroid, causing sympathetic ophthalmia. There was no history of syphilis or injury, but there had been an attack of kerato-iritis eight years previously. After removal an extensive layer of bony tissue extending in all directions from the site of the disc, the lens, which was entirely absorbed, was encapsuled in a bony shell.—The PRESIDENT observed that the first two cases were clearly instances of inflammation, and not new growth. He had seen true bone formation, but doubted if it was not in inflammatory products rather than in the choroid.

Drs. BRAILEY and HARTLEY communicated a paper on Tubercular (?) Disease of Choroid, with extirpation of both eyes. Five years previously the patient's left eye was struck with a piece of metal. No notice was taken of the accident; but in June, 1886, the eye was tender, and he applied for relief. A small triangular piece of metal was then discovered resting upon the iris at its lower part. Faint horizontal streaks of opacity were also visible in lower half of lens. The metal, with the iris to which it was adherent, was removed by a downward iridectomy, and the eye seemed to become quiet. In about a month, however, the patient returned, complaining of intense pain in left side of head, with some diminution of sight in right eye, which before was normal. Right eye: V $\frac{6}{9}$, cornea bright, but surrounded by distinct zone of pink injection. No pain or photophobia in this eye; only "dulness" of sight. Left eye: Intense vascular injection of the whole eyeball, which appeared enlarged. Cornea uniformly opaque; tendency to bulging of iris at the upper and lower ciliary margins. V = *nil*. T + 2. This eye got rapidly worse, in spite of treatment, so that in a day or two it was extirpated. The right eye, meantime, was being vigorously treated with biniodide of mercury, leeches, atropine, &c.; but, on August 4th the notes said: "Pain in right eye and right side of head, much chemosis, V = barely fingers." On Aug. 21st there was marked prominence of the ciliary region; cornea slightly hazy (from altered T?); eyeball as a whole large and prominent. Iris swollen and pupil obliterated. T +; V = *nil*. Pain and swelling continued. Eye eventually extirpated. Examination of eye by Dr. Brailey: Globe slightly enlarged (generally), especially in antero-posterior diameter. Cornea small, probably opaque, and flat when fresh. Extensive and prominent bulging of ciliary region, especially above and below. Anterior chamber was probably wanting or shallow when fresh. Optic nerve larger than normal. Antero-posterior vertical section through cornea and yellow spot showed the lens *in situ*: vitreous gathered up so as to occupy only the anterior half of its cavity; a thin fluid fills up the remaining space. Retina *in situ*, but thickened and much wrinkled. Choroid *in situ*, but much changed in appearance; at and near the posterior pole much thickened; this thickening closely surrounded the optic disc. It tapered off forward to the ora serrata, but even there it measured two or three times its normal thickness. Great thickening began again at the ciliary body, and extending thence to the iris, diminishing towards its pupillary margin, which hardly appeared implicated. In the iris the new growth appeared mainly posterior to the uveal pigment layer, which appeared scarcely altered. In the ciliary body the uveal pigment was scattered, and the new growth appeared both internal and external to it. The sclero-corneal tissue was abruptly thinned at the anterior termination of the ciliary body, and enormously stretched. This change extended over an antero-posterior space of at least five millimetres. The vastly thickened base of the iris was pushed close into the projecting part. Thus was constituted the ciliary bulging. A thin, pretty uniform layer of new formation and slight consistency was found between the retina and its pigment epithelium layer, and appeared to be due to the coagulation of a fluid effused in this position. The growth did not seem to have extended either into the substance of the sclerotic or into the retina, or to have perforated the lumina vitrea of the choroid. It was fairly consistent and non-pigmented.—The PRESIDENT thought the evidence of tubercle was indistinct: there was no history of it, and it was not proved by the microscope.—Dr. BRAILEY said that the growth in the second eye was clearly tubercular, there were well-marked giant cells and broken-down matter; no bacilli were found, but he laid no stress on that, as it might have been due to the Muller's fluid.—Mr. LAWFORD said that this did not interfere with the detection of the bacilli.—Dr. SHARKEY considered the anatomical peculiarities of tubercle much more characteristic than the bacilli; even in cases of general tuberculosis, he had failed to find them in any of the organs. The earlier the tubercles, the less the chance of finding them.—Mr. NETTLESHIP thought that, apart from the histology, a subacute destructive sympathetic inflammation would satisfy all the conditions found.—Mr. HARTLEY said there was nothing in the accident or in the behaviour of the first eye in favour of sympathetic inflammation.

Mr. SIMEON SNELL (Sheffield) read a paper on the Closure of Sclerotic Wounds by Suturing the Conjunctiva only, and said that for a long time he had been convinced that it was unnecessary and undesirable to suture the sclerotic directly for wounds of that tunic. Perfect apposition was obtained by suturing the conjunctiva only; a needle threaded with carbolised catgut or silk was passed well underneath the conjunctiva on either side of the scleral wound, and the grip thus obtained allowed, on tying the suture, the lips of the wound to fall into perfect apposition. The resulting union was perfect. He referred to his article in the *Ophthalmic Review* for 1884, where he related cases and advocated this method: more recent experience had confirmed his opinion as to its value. He had employed it in a large number of cases where he had incised the sclerotic to remove or search for foreign bodies with the electro-magnet, as well as in several cases of accidental wounds, examples of which he related. The method advocated avoided passing a suture through the sclerotic, choroid, and retina, and left no loop in the interior of the eye to act in some degree as a foreign body in a cavity where the vitreous was already broken up; it made the deep wound into a subcutaneous one; it did not disturb union by removing sutures; the insertion of needles in the sclerotic often increased the loss of vitreous; this was avoided.

Mr. JESSOP read a case of sudden and lasting Lateral Nystagmus, most marked when looking to the left. It was a man aged seventy, who came to the Central London Ophthalmic Hospital on Nov. 12th, 1886. Three days previously, he noticed, on waking up, that fixed objects moved and rocked laterally. His previous general health had been good, but he had been troubled with slight diplopia for fifty years, which he attributed to his aniso-metropia. For the last week he had been giddy, but had never fallen down.

No syphilitic history or signs. Fourteen years deaf with his right ear, and five years with left. Eyes: no apparent squint, and fields for diplopia showed the images very little distance apart. Lateral nystagmus most marked when patient looked to the left, scarcely seen when looking to the right. Pupils equal; act to light and accommodation. Hippus irregular as to time and degree, not synchronous with respiration, pulse, or nystagmus, and not altered by looking to the right or left. He said that, on looking to the left, objects passed to the left, but he did not see them come back again. The nystagmic movements were not increased by pressure on the ear, as in Dr. Hughlings Jackson's case in the Transactions of the Ophthalmological Society, vol. iii., p. 261. The nystagmus was increased by active movement, especially coming downstairs turning to the right. Knee-jerks normal. Heart: loud mitral systolic murmur. Urine normal. Mr. Cumberbatch had examined the ears, and said that the deafness was the ordinary deafness connected with chronic middle ear catarrh.

Dr. GOWERS first drew attention to the forms of Conjugate Palsy of the lateral movements of the eyes caused by disease on one side of the pons. The lateral movement was excited by the sixth nucleus on one side, acting through its own nerve on the external rectus, and through the posterior longitudinal fibres (and cells and fibres of the opposite third nucleus and nerve), on the opposite internal rectus. It was probable that these third nerve fibres did not actually arise from the sixth nucleus, but that their cells were connected with those of the sixth. It had been sometimes assumed that the centre for this lateral movement was the sixth nucleus, but this view was erroneous; the centre was possibly the superior olivary body, which, according to Betcherew, was connected with the sixth nucleus, the auditory nucleus, the cerebellum, and the spinal cord. There were three classes of palsy from disease of this region. 1. Paralysis of the sixth nerve only, from disease of its fibres within the pons, causing absolute palsy of the external rectus and deviation of the eye inwards. 2. Disease of the nucleus of the sixth, causing the total palsy just mentioned, with, in addition, loss of the associated action of the opposite internal rectus, so that this eye could not be moved inwards beyond the middle line, except in some instances, in convergence or alone; the facial nerve was also involved in these cases. (An instance of this form was described.) 3. Disease above the sixth nucleus causing palsy of the lateral movement of both eyes, but without the total palsy of the external rectus, and consequent deviation of the eye inwards, present in the first two forms. If the eyes were moved towards the opposite side, they could be brought back as far as the middle line, but not further. Thus the affected muscles could bring the eyes back from the position produced to the action of their antagonists, although they could not effect a primary movement. Hence, this return movement must be excited in some other way than through the path by which the same muscles caused a primary lateral movement. The excitation for the return movement was probably due to the influence of the centres of the opposite side. Thus, in disease of the right side of the pons, in which the eyes could not be moved to the right, if they moved to the left the centres on the left side excite the corresponding centres on the right side to bring the eyes back to the middle line; to move them further the interrupted right path was necessary. It was perhaps, a special instance of the associated action of opponent muscles, continuing longer in the centres for the opponents than in those for the primary movement. This consideration simplifies the problem of the immediate mechanism of nystagmus, reducing it to the causation of the intermissions of the primary contraction. Given intermitting contraction and the return movement, the oscillation necessarily followed. It was probable that a tendency to intermission was inherent in the centres, but was normally restrained, and the contraction rendered uniform by some influences, perhaps complex. One such influence might be the mutual action of opposing centres. A case was mentioned of disease of one side of the pons, with loss of the movement towards that side, in which there was nystagmus in the movement towards the opposite side; and, two years ago, he had brought a case before the Society in which an acute lesion on one side of the pons caused deviations towards the opposite side, with nystagmus. But many more facts as to the position of lesions causing nystagmus were required before the speculation as to its mechanism could, with profit, be carried further.—Dr. HUGHLINGS JACKSON, after remarking on the great value of the case Mr. Jessop had brought forward, and on the thoroughness with which it had been investigated, and after expressing his admiration of Dr. Gowers' paper, said that he had long held that nystagmus and tremor signified paralysis. He believed that, notwithstanding the complete excursions of the globes, there was loss of some few ocular movements in the case of Mr. Jessop's patient. It was of very great importance to distinguish between loss of power of muscles and loss of movements. In nystagmus there was, he thought, loss of some movements and development, and sometimes over-development of other movements of the very same muscles. He considered that in miners' nystagmus and in other professional cramps (writers' cramp, for example) there was loss of some movements, with forcing of other movements of the same muscles. If, after gazing out of a rapidly moving railway carriage, we look at the seat, the seat seems to move: here is negative after-movement; there is loss of a few ocular movements with over-development of other movements. Is there not here nystagmus in the making? It was submitted that there was temporary exhaustion of some cells of the lowest motor centres for certain ocular movements. If one might make the ridiculous supposition that a man's occupation consisted in looking out of a railway carriage window, he might come in time to have railway travellers' nystagmus, the genesis of which would point to a paralytic element—loss of some movements owing to atrophy of some cells of lowest motor centres, with over-development of other movements. Dr. Hughlings Jackson then adverted to a case of hemiplegia from disease of the upper part of one-half of the pons Varolii with turning of the eyes from the side of the lesion—that is, to the side paralysed—which had been investigated by Dr. Gowers and himself (*Medical Times and Gazette*, Jan. 3rd, 1874). It was well known that there were in cases of epileptiform seizures the mobile counterparts of ordinary hemiplegia with deviation of the eyes from the side paralysed. Dr. Jackson thought he had twice recently seen the mobile counterpart of the hemiplegia from disease of the pons he had mentioned; nearly tonic spasm of the limbs of one side with turning of the eyes to the other side, presumably depending on discharge beginning in some part of the pons. He mentioned the case of a boy, reported to the Medical Society in November last, who had fits when his head or face was touched. In the fits the eyes turned to the right; there was hemiplegia of the left side. A case of more direct ophthalmological interest was that of a patient who had paroxysms of lazy clonic, almost tonic, spasm of the right side of the face, but of the two obiculares palpebrarum, and turning of the two eyes to the left. Fully aware that face fits occurred from limited discharges of the mid-cortex, he believed the face fit mentioned to belong to the class of ponto-bulbo-spinal fits (lowest level of evolution). The work the ophthalmologists were doing in precisely distinguishing losses of ocular movements from paralyses of ocular muscles was of vast interest to the neurologist. Dr. Jackson had never seen loss of ocular movements in cases of general paresis, except perhaps in one case in which there was a want of smoothness in the excursions of the globes, not amounting to nystagnus. Theoretically, loss of some movements would be expected, and, theoretically, a change so slight as not to amount to that supposed to occur in nystagmus.—Mr. PRIESTLEY SMITH suggested that the correspondence in the direction between the ocular movement and the displacement of the images of objects might be explained by the patients not perceiving the image of external objects during the spasm, but only on the return of the eye to its former position. As to the occurrence of hippus in the conjugate lateral movement, he asked whether it occurred during convergence. Did cases of convergent nystagmus exist? He had not seen one. From the nature of the nystagmus we should suspect that it originated from disturbance of motor centres situate at a lower level than those which were producible by voluntary effort. He had seen one case only of vertical nystagmus. Von Graefe referred to six. As supporting Dr. H. Jackson's view, that nystagmus was in one sense of the nature of a paralysis, he said that normal movements of the eye might easily become of a jerky character. In gazing at the sun, for instance, and then looking at the landscape away from the sun, he had always noticed that the negative image of the sun had the appearance as of a number of dots, which he ascribed to displacement, the result of disturbed innervation of the

muscles.—Mr. W. H. JESSOP, in reply, said there was hippus during convergence, and in right lateral deviation also.—Dr. GOWERS, in reply, alluded to the fact that in nystagmus objects sometimes appear to move in the same direction as the quick movement of the eye, as of great importance as probably affording grounds for ultimately distinguishing the functional relations of the phenomenon in different cases. It brought the movement into relation with vertigo, with which it is sometimes associated, and in which the sense of movement in the individual and in external objects usually agrees in direction. The explanation of the agreement is to be found in the motor character of vertigo, and in the fact that any resulting movement is secondary, and falls short of the actual motor tendency which is felt as a sensation. If a person turns round, and an object remains opposite to his eye, he infers that the object moves in the same direction as he does, and a sensation of movement leads to the same inference; actual movement would only prevent the inference if it were equal to the tendency, and there would only be a sensation of movement in the opposite direction if the actual movement were in excess of the tendency.

OBSTETRICAL SOCIETY OF LONDON.

Galactorrhœa.—Mechanism of the Third Stage of Labour.

AT the meeting on March 2nd, Dr. GALABIN showed a Uterus removed in November last by Porro's operation. The patient made a good recovery.

Dr. HORROCKS exhibited a Fibromyoma from a case of Cæsarian section. The patient in this case died.

The President, Dr. JOHN WILLIAMS, delivered the Inaugural Address, which will be found on another page. At the conclusion a warm vote of thanks was proposed by Dr. GRAILEY HEWITT and seconded by Dr. BRAXTON HICKS, which was carried by acclamation.

The discussion of the paper on Galactorrhœa, which was read at the previous meeting by Dr. Gibbons, was opened by Dr. MATTHEWS DUNCAN, who noticed the neglect of the science of lactation and deficiency of literature connected with this important and interesting department of practice. He believed Dr. Gibbons' paper to be the fullest account of the subject. Galactorrhœa required definition, for there were many kinds. That prolonged and exhausting suckling which led to depression and melancholia might be, but was not classed as, galactorrhœa. In Dr. Gibbons' case there was no excessive flow, for thirty ounces a day could only be regarded as a long continuance of the flow in quantity nearly what was secreted by an actively nursing woman. Dr. Duncan had seen in a healthy young woman a constant flow so excessive as to run through the bed and over it to the extent of many pints a day, but not for many weeks. Another kind of excessive flow was not very rare in rich-blooded young women—milk running from the idle breast while the other was being sucked. He had watched such a case where the wasted milk was apparently more than the child could be swallowing, the flow going on only while the opposite breast was stimulated by the sucking infant. The unilaterality of Dr. Gibbons' case was interesting but it was not rare in ordinary healthy nursing. In Dr. Gibbons' case cure came at once on the appearance of delayed menses, and it was most natural to ascribe the arrest of lacteal secretion to the appearance of menses, the one function alternating with the other as the growth of stags' horns with the rutting.—Dr. CLEVELAND drew attention to what he preferred to call "incontinence of milk." In this condition the infant at the breast would cry more than usual, not being satisfied; it did not sleep so long as it should, and did not present the appearance of thriving. On inquiry as to the suckling, the frequent reply is that "there is plenty of milk and that it runs away." Dr. Cleveland was satisfied that where a primipara suffered from this form of galactorrhœa she would prove an inefficient nurse.—Dr. JOHN PHILLIPS mentioned a case, as did Dr. HORROCKS, and the latter compared the physiology of secretion of saliva with that of milk, and suggested that galactorrhœa might be due to vaso-motor or pure nerve influence. The secretion of milk was intimately associated with the ovaries, but the nervous pathology had not yet been fully ascertained.—Dr. C. H. ROUTH asked why local pressure of the breast was not carried out in these cases. It was a well-known method of treatment in cases of orchitis or swollen limbs. Dr. Routh mentioned a case in which a lady continued to secrete milk long after the weaning of her child, and which persisted some three years and then became restricted to one breast. It yielded partially to treatment by pressure, but completely stopped when treatment was directed to the womb. He thought that by the introduction of a piece of caustic within the uterus, as suggested by Sir James Simpson, the flow of blood or menses might have been determined and the cure of nature anticipated.—Dr. PLAYFAIR knew a good deal of the practice of the late Sir James Simpson, but was not aware that he ever adopted or recommended the treatment named by Dr. Routh.—Dr. GALABIN and Dr. DAWSON related their experience.—Mr. J. BLAND SUTTON said he had found galactorrhœa in the cow due to tubercular disease of the ovaries, and in a case of unilateral galactorrhœa in a kid there was a cystic ovary on that side.—Dr. HERMAN asked if the mammary abscess from which Dr. Gibbons' patient had suffered might not be the explanation of the unilateral character of the galactorrhœa, one breast not secreting because of destruction of gland tissue by the abscess.—Dr. CHAMPNEYS said that Dr. Gibbons' case exemplified the antagonism or alternation between lactation and menstruation. There were cases in which secretion of milk coexisted with uterine hæmorrhage.—He had seen a case in which the more the breasts swelled the greater was the uterine loss. Nursing was stopped, ergot given, and the breasts soon subsided. With regard to treatment, Dr. Champneys could not see why eczema need have prevented the application of pressure. A drying powder on lint or cotton-wool could have been used, with strapping over, the straps reaching more than half round the body. He thought there was evidence in favour of the use of ergot in these cases. Derivation to the uterus by hot foot-baths was also not mentioned. Dr. Champneys could imagine that uterine hæmorrhage might be caused by the introduction of caustic within the womb, as named by Dr. Routh, but such hæmorrhage could not be considered menstruation. Dr. Champneys had heard of wholesale spaying of milking-cows in Texas, with the result that the milk had gone on to the owner's satisfaction for a long time, in one case for eleven years.—Dr. HEYWOOD SMITH thought the discussion would lead us to give more attention in such cases to the condition of the uterus and ovaries.—Dr. W. J. COLLINS had seen lacteal secretion in infants, male and female. He would like to hear what the condition of the breast was in Dr. Gibbons' case after the arrest of secretion. Was it atrophic? From analogy with the salivary glands the galactorrhœa might be of the nature of a paralytic secretion.—In reply, Dr. GIBBONS said that the eczema was due to constant saturation of the skin with the milk that flowed away, and that his case was so entirely unilateral that not a drop of milk could be squeezed from the right breast. When the patient was well the left breast assumed a normal appearance.

Dr. CHAMPNEYS read the first of a series of papers on the Mechanism of the Third Stage of Labour. 1. The Separation of the Placenta, reviewing the facts furnished by our knowledge of the clinical course of natural labour, and by that derived from Porro's operation. From the former it is known that until the birth of the head the placenta is not detached, and that after the birth of the head it is not at once detached. Leenser found by examination of 168 women that the placenta is completely detached as soon as the child is born. As regards Porro's operation, the inferences drawn from it must be regarded with suspicion on account of the great interference which has taken place with the uterus. The facts derived from these two sources do not tally. He next discussed the theories of the cause of placental detachment. *A.* By contraction and retraction alone, through reduction of the placental site. *B.* By contraction and retraction indirectly. (*a*) By separation of the centre, which is less firmly attached than the edge, leading to aspiration of blood; (*b*) by squeezing blood towards the surface during contraction; (*c*) by rapid diminution of intra-uterine pressure consequent on the birth of the child. *C.* By detrusion (Leenser), the placenta being forced in the direction of least resistance—i.e., the axes of the parturient canal. He then reviewed the theories of the modes of placental detachment. *A.* According to the situation of the placenta. *B.* From edge. *C.* From centre. *D.* According to firmness of attachment of its parts, and to the question whether the separation of the placenta is independent of rupture of utero-placental vessels as a cause, the decision depends (*a*) on proved hæmorrhage behind the placenta in normal labour; (*b*) on

the mode of expulsion of the placenta. Pending the decision of the above questions to be dealt with in a subsequent paper, Dr. Champneys concluded that hæmorrhage to a moderate amount plays a certain though subsidiary part in the mechanism of the detachment of the placenta.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

AT a meeting held at the Scottish Corporation Hall, Crane-court, Fleet-street, on Friday, Feb. 18th, Dr. Alfred Hill, President, in the chair, a paper was read, entitled "A Practical Illustration of the Protective Influence of Vaccination," by C. E. PAGET, medical officer of health for the Westmoreland Combined Sanitary District. The paper had reference to an outbreak of small-pox in a village in Westmoreland and its neighbourhood, and details of each case were very carefully given. The outbreak had lasted from March to September, 1885, the disease having first appeared outside the village in a sparsely inhabited hill district, and then found its way into the village, where it attracted attention. The early cases outside the village, numbering nine, were not seen by a medical man, except one, on a single occasion, in an incipient stage of illness before the rash was out, and it was not till severer cases occurred on the introduction of the disease into the village that medical advice was sought. The total number of cases in the outbreak was seventeen, and there was no mortality. All the cases showed marks of "pitting." The chief point of hygienic interest in the outbreak seemed to be in the illustration it afforded of what has been noticed in other outbreaks of infectious sickness, such as scarlet fever, diphtheria, and measles, especially in scattered rural districts—that the spread of such diseases may be often largely due to the mildness of initial cases. With respect to the influences of previous vaccination upon the outbreak, the paper was illustrated by several tables, and showed, first, that all persons that might be said to have been unvaccinated sickened; second, that one child only out of nine under fourteen years of age that had been primarily vaccinated, and had been definitely exposed to infection, sickened; third, that thirteen persons out of twenty-two over fourteen years of age that had been primarily vaccinated sickened (though the numbers might more fairly be taken as thirteen out of nineteen, since three adults were not exposed to nearly the same degree of infection as the others); and fourth, that the only (though very poorly) revaccinated adult sickened, but only in a moderate degree. The chief practical interest of the epidemic in respect of the partial protection of persons seemed to be in the enormous mitigation of illness, even where there was incomplete vaccination and a general want of revaccination. It was in the highest degree unlikely that if there had been an absence of even a partial vaccinary protection the attacks of small-pox would have been mild, and that in such a circumstance, in spite of the distances between the patients and medical advice, they would not have come under medical treatment. Such an epidemic history could scarcely have been given but for the half measures of protection enjoyed by the community of whom it was told.—In the discussion which followed the President, Drs. Gibbon, Louis Parkes, Sykes, Yarrow, and Ashby, and Messrs. Butterfield, Lovett, Eyre, and Murphy took part.

ACADEMY OF MEDICINE IN IRELAND.

Aspergillus Nigricans.—Dermoid Tumour.—Œdema Glottidis.

AT the meeting of the Pathological Section held on Jan. 14th,

Mr. STORY exhibited and described microscopic specimens of Aspergillus Nigricans, which he had removed from the auditory meatus of three individuals suffering from deafness and inflammation of the external ears. He exhibited also a fourth fungus of an undetermined character, but most probably also one of the aspergillus tribe. He gave a brief *résumé* of the literature of the subject of otomycosis, and stated his conviction that the fungi were the cause and not the consequence of the ear disease—a view which had been advocated by some of the writers on the subject.—Dr. MAPOTHER mentioned that in the year 1880 he himself had an acute attack of this otomycosis. He had never suffered, either before or since, from any aural disease. One night he went to bed in a house in the suburbs of Dublin with his hearing perfect, and the following morning he arose almost completely deaf. He bore the affection for one day, and on the next consulted Mr. Swanzy, who, partly by means of forceps and partly by syringing, removed a quantity of white cottony material from his ears. Besides the deafness, the only sensations he had were stuffing and a sort of ramming, as if something like cotton-wool was being pushed into both ears. The material removed from his ears was examined by himself and his friend, the late Dr. Richardson, and they both came to the conclusion that it contained aspergillus. After the extraction of the fungi from his ears, and a week's washing with sulphurous acid lotion, they disappeared and never grew again. He had observed that the wall paper of the room, next to which he slept, was extremely damp and almost completely separated from the wall by the dampness; and he believed that it was that which produced the fungi. Since the wall had become dry no similar attack of mycosis had occurred to anyone else occupying the room.—Mr. STORY, in reply, said he remembered having, as a patient suffering from this disease, a farmer who, sitting up all night with a sick cow, had stuffing and pain in his ears next morning, which were found to be caused by aspergillus.

Mr. STORY also exhibited a Dermoid Tumour growing from the corneo-scleral margin of the left eye of a middle-aged man. The tumour was of a pinkish-yellow colour, and had one long hair growing out of its centre. No other hairs could be detected, even with a magnifying glass. The tumour had existed ever since the man's birth, and remained quiescent until two months ago, when it began to grow over the surface of the cornea. It was a flat sessile growth, of a circular shape, about 4 mm. in diameter, half corneal, half scleral. In his opinion, it was to be regarded as a dermoid growth.

Dr. CHRISTOPHER NIXON exhibited the larynx and trachea of a patient who had died under his care of what is it the custom to call Œdema Glottidis, occurring in the course of Bright's disease.—The PRESIDENT observed that whether or not the disputed point was conceded that in Bright's disease the large smooth kidney might, in process of time, change to the small contracted kidney, there was no difficulty in assuming that other cases might occur in which that change did not happen. He would have no difficulty in accepting a history of any number of years' duration of Bright's disease, and yet in finding a large smooth kidney after death. He did not think anyone maintained that the large smooth kidney necessarily turned into the small kidney. The point in dispute was whether the small kidney ever represented a large kidney which had undergone atrophic change. But that a large kidney might remain so for an indefinite time was no subject of wonder.

Reviews and Notices of Books.

Diseases of the Joints. By HOWARD MARSH, F.R.C.S., Senior Assistant-Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital; Senior Surgeon to the Hospital for Sick Children and to the Alexandra Hospital for Hip Disease. With 64 Illustrations and a Coloured Plate. London: Cassell and Co. 1886.

THE volume before us is one of Messrs. Cassell's series of Clinical Manuals. It avowedly deals with diseases of joints from a clinical as opposed to a pathological point of view, and is mainly taken up with a description of diagnosis and treatment. Such pathology as is given is the work mainly of Mr. A. Bowlby, who is well fitted for such a task. We could have wished that he had had more space allotted to him, for there are several points in the pathology of diseases of joints which merit a fuller discussion than they receive in Mr. Marsh's book. At the same time we have to remember that a limit was necessarily imposed upon the author, and we cannot question his wisdom in preferring to make his book clinical rather than pathological. Mr. Marsh's experience at St. Bartholomew's Hospital and at two other hospitals has enabled him to

enrich his chapters with many excellent clinical histories which admirably illustrate the diseases he describes, and this feature of the book is sure to make it popular with most readers. Altogether the work is pleasant reading, practical, and trustworthy. The general teaching of Mr. Marsh is that with which the majority of English writers are more or less familiar. He does not advocate novel or radical procedures, and it is for this very reason that the book will be most acceptable to the majority of practitioners, who will be told how to treat articular affections without resorting to formidable operations. The chapters on the early recognition and treatment of Scrofulous Disease of Joints, on Syphilis of Joints, on Internal Derangement of the Knee, and on Bone-setting, seem to us to be some of the best in the book, while that in which the Injurious Effects of Intra-articular Pressure are described is well worthy of study. The early chapters on Synovitis &c. might have been arranged in a more systematic manner, and in them we think we notice a few omissions—such as the absence of any mention of over-use and of wounds among the causes of simple synovitis, or of heat as a local application in acute suppurative arthritis, the omission of any notice of the value of antiseptic irrigation of joints, and the omission of any treatment for purulent synovitis as distinguished from acute suppurative arthritis. These are, however, minor defects, and should in no way blind us to the fact that Mr. Marsh has produced a readable and useful work on a subject of the very highest importance. The illustrations are not of a high order of merit; the coloured plate which is said to represent a knee-joint affected with Charcot's disease may be that or anything else, and, whatever it is, it fails to give any adequate conception of the changes met with in this remarkable disease.

Leçons sur les Maladies du Système Nerveux. Par J. M. CHARCOT. Recueillies et publiées par MM. BABINSKI, BERNARD, FÉRÉ, GUINON, MARIE, et GILLES DE LA TOURETTE. Tome III. (2ème Fascicule). Paris: A. Delahaye et E. Lecrosnier. 1887.

WE owe the collection of M. Charcot's lectures, delivered at the Salpêtrière, of which the present forms the conclusion of the third volume, to the devotion of his friends and pupils. They are lectures which are classical and will have a permanent place in literature. Many of them have appeared from time to time in the pages of our contemporary *Le Progrès Médical*, whose editor, M. Bourneville, was associated with the production of the first volume of this notable series. It is interesting to note how M. Charcot has gradually in the course of his teaching tended to pass from the region of structural to that of functional disease. Thus, in the present volume there are several lectures devoted to male hysteria, isolation in the treatment of hysteria, hysterical paralysis, hysterical coxalgia, contracture and mutism; two others to word-blindness; another upon a case of abrupt and isolated suppression of the mental vision of signs and objects (form and colour), and on choreiform tremors and movements; while as to organic disease, there is one lecture on double sciatica in cancer, and cervical pachymeningitis, and another on a nosographical revision of amyotrophy. Some of the subjects are further dealt with in an appendix, affording additional observations upon the particular points treated of. Interesting as the subject of hysteria always is, and practically important as the recognition of its various forms must always be, it cannot but be felt that among less emotional races the remarkable phenomena described by M. Charcot as exhibited by the hysterical are to be rarely witnessed. These lectures, therefore, may attract less universal attention than those earlier ones which did so much to enlighten the medical world upon the pathological nature of organic disease of the brain and spinal cord. But if they fail to be so widely read, it is not that they do not merit it, for they exhibit in their clear and well-considered language the same vigour of treatment and masterly exposition that constitute the great charm of all Professor Charcot's writings. As in the domain of organic disease, so in the more intricate and complex region of functional derangement, Professor Charcot cannot but be regarded as a pioneer, whose observations are always exact, and whose ideas are at once sagacious and fruitful.

OUR LIBRARY TABLE.

The Factors of Organic Evolution. By HERBERT SPENCER. Pp. 76. London: Williams and Norgate. 1887.—This small volume is a reprint of two essays originally published in the *Nineteenth Century* for April and May of last year, in which Mr. Spencer endeavours to show that there are several factors in the process of evolution which have been allowed to drop out of view owing to the followers of Darwin having too exclusively devoted themselves to the single factor of natural selection of favourable variations. He thinks that one important factor thus neglected has been the inherited changes induced in structure owing to modification of function, as by the excessive use or disuse of parts, such changes being inheritable, so that, for example, "any change in the fore parts of a giraffe which affects the action of the hind limbs and back will simultaneously cause, by the greater or less exercise of it, a remoulding of each component in the hind limbs and back in a way adapted to the new demands; and generation after generation the entire structure of the hind quarters will be progressingly fitted to the changed structure of the fore quarters, all the appliances for nutrition and innervation being at the same time progressively fitted to both." Another factor, he considers, is the direct action of surrounding agencies on organic life, which in its varying influence on different members of the same group must always have tended to differentiate individuals and led to the formation of types or species.

The Quarterly Journal of Microscopical Science.—Edited by Professor E. RAY LANKESTER, THISELTON DYER, KLEIN, MOSLEY, and SEDGWICK. New Series. No. CVII. (Vol. XXVII., Part 3). London: J. and A. Churchill. 1887.—This part contains the following memoirs:—Gilbert Bourne, on the Madreporian Coral Fungia, with three plates. 2. Arthur Shipley: Some Points in the Development of Petromyzon Fluviatilis, with four plates. 3. Robert Smith: The Ammoniacal Decomposition of Urine, with two illustrations. 4. Herbert Carpenter: Notes on Echinoderm Morphology, with an illustration. 5. R. v. Lendenfeld: The Function of Nettle Cells, with an illustration. 6. Hanbury Hankin: Some New Methods of Using the Aniline Dyes for Staining Bacteria. 7. Marshall Ward: Illustrations of the Structure and Life History of Phytopthora Infestans, the Fungus causing the Potato Disease, with two plates. 8. Martin Hartog: The Formation and Liberation of the Zoospores in the Saprolegniæ. Dr. Smith has made a series of experiments to determine the cause of the decomposition of urea, and finds that it is owing to the presence of a special form of microbe belonging to the micrococci, which differs from the micrococcus ureæ of Professor Leube, inasmuch as it liquefies gelatine.

Vision and Vision-testing, with Practical Tests. By A. ST. CLAIR BUXTON, F.R.C.S., Assistant-Surgeon to the Western Ophthalmic Hospital, London. Pp. 83. London: Pickard and Curry. 1887.—Mr. St. Clair Buxton supplies in this little work a popular and very brief account of the anatomy and physiology of the eye. A novelty is introduced in the shape of a figure showing the mode of formation of distinct and indistinct images upon a screen of a candle flame by means of a lens. The fact which will prove most serviceable is the account of the tests to which

Government officials are now subjected, and which, if every intending clerk were to try upon himself, would spare much disappointment and annoyance.

Obstetrical Transactions. Parts I., II., and III., for 1886.—The Obstetrical Transactions for 1886 fully maintain the character of the series as a record of interesting cases, and, more important still, as a result of solid work done by the Fellows. In this work we are glad to find seniors and juniors happily united in friendly rivalry, some of the communications being the result of investigation spread over several years. The appearance of the Transactions in parts is a decided improvement, as the matter is more easily assimilated in detail, and is laid before the medical world in a tangible form before it becomes stale. Among the more important scientific papers we may mention those by Dr. Herman on the Oblique Pelvis of Naegele (January), and on one of the causes of Difficulty in Turning; by Dr. Matthews Duncan on Contraction, Inhibition, and Expansion of the Uterus (April), and another on Elasticity, Retraction, and Polarity of the Uterus (May); by Dr. Champneys on the Artificial Production of so-called "Lymphatic Varix" (June), and Observations on the Uterine Bruit (July); by Dr. John Phillips on Spurious Hermaphroditism (with a remarkable family tree); and by Mr. Doran on Malformations of the Fallopian Tube (July). Among the most interesting cases the following may be named:—Gastrotomy for Extra-uterine Gestation in which the placenta never came away, by Dr. Braithwaite; Removal of both Ovaries during Pregnancy, by Mr. Thornton (February); Multiple Fibromata complicating Twin Pregnancy, by Dr. John Phillips (June); and Chronic Abscess of the Urethra, by Dr. Herman. Of the specimens shown, the following are of interest:—Gestation in one Horn of a Uterus Bicornis Unicollis, by Dr. Campbell Pope (March); a Series of Uteri at the Onset of Labour and After Delivery, by Dr. Barbour (March); and a Naegele Pelvis, by Dr. W. Griffith (April). We congratulate the Society on so creditable an amount of work done during nine months. The final part of the Transactions is still to come.

Archiv für Pathologische Anatomie und Physiologie. Herausgegeben von RUDOLF VIRCHOW. Bd. 107, Heft I. Berlin: G. Reimer. 1887.—The January number of Virchow's *Archiv* contains the following articles: 1. On the Influence of Hardening Methods upon the Condition of the Ganglion Cells of the Spinal Cord in the Rabbit and Dog, by Dr. Trzebinski. 2. Researches on Heat-radiation of the Human Body, by A. Masje. 3. The Structure of Fœtal Membranes in Abdominal Pregnancy, by Dr. A. Walker. 4. On the "Reducing" Substances in Diabetic Urine, by Dr. Hans Leo. 5. Contribution to the Doctrine of Trophic Nerves, by Dr. Max Joseph. 6. The Fascia Umbilicalis and its Connexion with Umbilical Hernia in Children, by Dr. H. Sachs. There are also some minor contributions by various writers.

Centralblatt für Bacteriologie und Parasitenkunde. Herausgegeben von Dr. O. UHLWORM in Cassel. Bd. I. Nos. 1 and 2. Jena: J. Fischer.—The activity of bacteriological research has led to the issue of a "Centralblatt," which is to appear weekly. The editor, Dr. Uhlworm, acts in co-operation with Professor Leuckart of Leipsig and Dr. Loeffler of Berlin, names which will sufficiently guarantee the high character of the journal. Professor Leuckart contributes an original article upon the Bothriocephalus question, which occupies the first place in each of the first two numbers, the remaining pages being devoted to abstracts and reviews of recent work. The second number also contains a list of recent literature compiled by Dr. Würzburg, librarian to the Imperial Sanitary Institute.

Revue Générale de Clinique et de Thérapeutique (*Journal des Praticiens*) is a new journal, of which the first number appeared on the 17th ult. It is published every Thursday, and its chief aim is to supply within a small compass all that is of special interest to the actual practitioner. The official address is 16, Rue Clément Marot; the chief editor is M. Huchard, and the acting secretary M. Eloy. The first two numbers are very well done.

New Inventions.

EMPYEMA-TUBE.

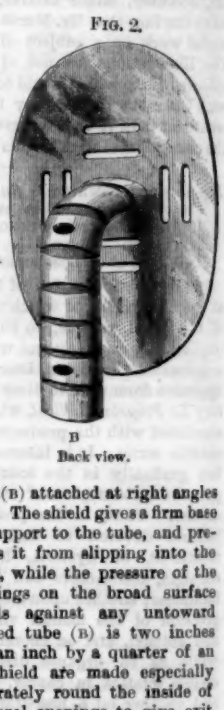
A TUBE which will provide satisfactory drainage in cases of empyema has long been a desideratum. The simple indiarubber tube is liable to have its calibre obliterated by the pressure of the ribs, or thickened pleura in long-standing cases, or by becoming kinked just inside the chest wall. The ordinary silver empyema-tube does not adapt itself well to the varying conditions of the chest, and often causes injurious pressure on the lung. The silver tube I have had made is non-compressible, cannot become kinked, will fit any chest, is comfortable to the patient, and keeps well in position. It is composed of a shield (A) measuring two inches by one inch and a half, and a lobster-tailed tube (B) attached at right angles to it. The shield gives a firm base of support to the tube, and prevents it from slipping into the chest, while the pressure of the dressings on the broad surface guards against any untoward displacement. The lobster-tailed tube (B) is two inches long, with an oval bore of half an inch by a quarter of an inch. The joints nearest the shield are made especially mobile, to enable it to fit accurately round the inside of the ribs and pleura. It has several openings to give exit to the fluids. Over the silver tube one end of a thin piece of indiarubber tubing of the required length can be drawn; the outer end of this tube is slit into four parts, each of which is passed through two slots in the corresponding side of the shield (A). This arrangement fastens the two tubes securely together. In practice I have found this tube answer all my expectations. Great care must be taken, on account of its numerous joints, to purify it thoroughly. It is made in three series by Messrs. Ferris and Co. of Bristol, one larger and one smaller than the above. I have found it advisable, however, to use as large a tube as possible.

FIG. 1.

B

Front view, with indiarubber tube attached.

FIG. 2.



B

Back view.

W. J. PENNY, F.R.C.S.,
Assistant-Surgeon to the Bristol General Hospital.

THE LANCET.

LONDON: SATURDAY, MARCH 19, 1887.

THE complaints which have from time to time been made as to erysipelas after vaccination are evidently leading to a careful examination of all the circumstances associated with such occurrences, and the report which has recently been submitted to the Local Government Board by Dr. AIRY on three cases of fatal erysipelas after vaccination in the Sudbury Union is fairly typical of the facts which are usually elicited. The three cases occurred in October and November of last year, the deaths taking place on the 2nd, 9th, and 11th of November respectively. The three children were vaccinated by three separate medical practitioners, two of them being public vaccinators. In all three instances the operators performed the vaccination with all the needed care, and except as regards time and general locality the cases had nothing in common. Moreover, in each case other children had been vaccinated with the same lymph, and this without the occurrence of any untoward symptoms.

In the first case the vesicles were first broken accidentally after the eighth day, and it was after this followed by spreading erysipelas, which caused death. But rupture of vesicles, as Dr AIRY points out, is not sufficient to cause erysipelas, otherwise the intentional opening of vesicles would often be followed by a similar result. The poison, the contagium, the seed of erysipelas must be implanted into the scratch or wound thus induced. And it should be noted that if the erysipelas had been inoculated when the operation was performed, it would have shown itself at a much earlier date than the second week. The introduction of the poison took place after the accidental rupture of the vesicles, but beyond the fact that the infection of erysipelas was about in the town and neighbourhood, nothing to prove the occurrence of the infection could be ascertained. The child, however, lived in a spot where a low form of sore-throat was common. In the second case, which had no apparent connexion with the first, vaccination had been performed with calf lymph, and the child was well on the eighth day, when on inspection it was found that the vesicles had been broken. In this case the surroundings of the house were found to be insanitary; the mother had recently suffered from abscess of the arm; the father had an ulcer of the leg; when the child was brought to the surgery for inspection, a woman was sitting in the waiting-room with erysipelas of the face, and the practitioners connected with the case were at the time attending a case of erysipelatous inflammation of the leg, also a child with erysipelas, besides two cases of scarlet fever. Such facts abundantly account for the erysipelas in the vaccinated child. In the third case no definite source of infection could be discovered, but the child lived in a low-lying place close to swampy and unhealthy meadows.

In connexion with the origin of these cases of erysipelas, it is curious that in October and November three fatal attacks of the same disease after vaccination took place in the same union; and the indications also pointed to an endemic prevalence of erysipelas last autumn, a considerable amount, together with undefined sore-throats, being recognised. Under these circumstances, the wound produced by a lancet-scratch, or by a ruptured vesicle, is liable to receive the infection of erysipelas just in the same way as is any other wound. And this raises the question whether vaccination accidents are at all frequent preliminaries to erysipelas. This is answered by an instructive note which is placed at the head of the report by Dr. BUCHANAN. Taking septic diseases registered as having followed vaccination, Dr. BUCHANAN points out that in England and Wales during 1883—the latest period for which comparable official data were available—the number of infants receiving scratches or pricks in the process of vaccination was 763,192. The operation was followed by ill consequences in certain of these children, and 51 of them died, all or almost all from septic diseases. Now, in England and Wales the number of infants under one year of age was in 1883 over 760,000. By one mischance or other, but apart from any recorded connexion with vaccination, a certain number of these children became the subjects of septic disease, and of that number 724 died before completing one year of age. The facts may well be borne in mind, for they point to the circumstance that whilst a vaccination scratch is, like any other wound, liable to receive the erysipelatous poison, this result is really a rare one when compared with erysipelatous and septic occurrences following on other causes. The report[1] in which the facts recorded are set out has been placed on sale as an official publication.

THE committee which has been appointed to consider how best to organise medical attendance on the working classes in London has a difficult task before it, and will have many critics. We have reported from time to time the main conclusions reached, and it is to be admitted that the committee in these conclusions shows a perception of some of the chief rocks upon which the Metropolitan Medical Provident Association struck. They have agreed on a wage limit and upon terms of admission during sickness which it is thought will be, while not discouraging to providence and forethought, enough to induce those actually in need of medical attendance to join the dispensaries. We do not propose at present to discuss all the resolutions of the committee, but rather to emphasise the importance of a question which they are approaching, and which they must discuss at either the next meeting or the one immediately following—viz., the possibility and the advantage of co-operation between the hospitals and the provident dispensaries. It is thought by many that the out-patient department of hospitals is greatly abused, and that many of the patients so treated ought to be refused treatment there and relegated on system to the provident dispensary nearest to their homes—a point to be ascertained by a list of such institutions to be kept in each out-patient room of the various hospitals; and that the dispensaries, on the other hand, should be in close and organic relations with hospitals, and their officers have the power to ask

[1] Eyre and Spottiswoode, East Harding-street, E.C.; Adam and Charles Black, Edinburgh; Hodges, Figgis, and Co., Dublin.

consultation and co-operation with the medical staff of hospitals in all cases of difficulty or severity.

The medical staff of hospitals will do well to consider this proposal in a kindly spirit. They will perceive at once some of the objections to it, and be apt to imagine the out-patient rooms deserted, and its usual occupants crowding to the nearest provident dispensary. With this change they will be likely to apprehend diminished means of teaching common diseases, which are alleged already to be insufficiently studied and taught at hospitals; and the financial authority of hospitals may say that it is no business of theirs to inquire into the social condition and means of patients, and to serve as promoters and feeders of provident dispensaries. Such objections will not, we feel sure, be pressed too far. The hospitals are too great in their function, and in their services to the public and to the poor, to need to fear lest they should be left unsought. The more serious cases will still repair to them in numbers; and by enabling the medical officers to treat them with more thoroughness than is possible now with promiscuous crowds in the out-patient rooms, greater credit will redound to the hospital, and greater gratitude be forthcoming from patients. We have never been insensible to the vagueness of the charges of abuse of hospitals. The million of patients in London out of its five millions has always appeared to us as a most misleading statistic, including, as it certainly often does, the same patient over and over again in the same institution, admitted under different letters, and also the same individual as a patient in different institutions. But it is an undoubted fact that many persons frequent the out-patient rooms of hospitals who can afford to pay a private practitioner, or who ought to come under a system of insurance against medical bills, which it is the object of provident dispensaries to enable those of small means to avoid. And we do not know any way in which hospitals would do better service than by co-operating in a systematic and organised attempt to eliminate such persons from their patients. They would not only be lessening the heavy demands on their own funds, but by showing a disposition to co-operate for the removal of the only abuse seriously charged against them they would make their claim on the liberality of the public incontestable. We look forward with much interest to the discussion of this question by a committee, including very influential members of the profession who, with singular disinterestedness, have tried to view it in all its bearings.

THE Trade Depression cloud has not yet passed away, although the Report of the Royal Commission is rapidly descending into the limbo of forgotten things. It is true that a more hopeful tone prevails among the *vates*, and the opinion has now become current that if Europe can keep out of war, it will shortly enjoy in a large measure the commercial results of peace. Happily, although the risk of war is still undeniably great and even disquieting, it is yet open to us to hope that both the condition and the promise will be fulfilled. In that fulfilment the professional classes, and especially that of medicine, have a much nearer and livelier interest than is perhaps generally supposed. It is very commonly assumed that, as the state of trade affects them only indirectly for the most part, they can only be slightly interested in it, whether as sentimentally sharing the sufferings of their neighbours or as practically involved in the hardship of overdue accounts and bad debts. But in point of fact this is only half of the mischief. Another and more permanent inconvenience is the overcrowding which it produces in the ranks of the professional classes. The clouding over of the commercial horizon causes hundreds of youths, who in happier circumstances would have found their places in the van of the trading community, to divert their energies into what looks at the time the fairer field of professional toil. It does not strike them, until in after years their mutual competition has involved them all in a common disappointment, that the equation of supply and demand holds as rigorously true in the schools and the forum as in the mart; and then enlightenment has come too late. The generation must pass away before the consequences of such an incursion can wear off. Thus the effect upon the career of an ordinary professional man, if less direct, is much more lasting than on that of the ordinary commercial man. The disorder does not assume quite such an acute form, but it is less amenable to remedies, and certainly no less trying to the body politic. We make no claim, therefore, to the praise of altruism in respect of the keen interest taken by medical men generally in the subject upon which the Royal Commission so lately reported, and with so little apparent effect.

There is, indeed, one suggestion made by the Commission which seems to be in a fair way of yielding fruit, and it happens to be the one in which medical men have perhaps the most direct interest. It is that which relates to the amendment of the Joint-Stock Companies Acts. In the suggestion we heartily concur, regretting only that the Commissioners were not more explicit and precise as to the remedy to be applied. That, however, is a defect which can easily be repaired. Already a deputation of practical men has interviewed Lord SALISBURY, and had the opportunity of explaining to him the defects in the law to which experience points. He has replied that the Government proposes to deal with this matter in the way of legislation, and assuredly the time for legislation has fully come; for great as is the impulse which these statutes have given to the commercial development of the country, it is only too patent that they have opened the door to enormous abuses. Unscrupulous promoters have plundered the public, and not less unscrupulous wreckers have plundered the Companies, until between the Company-producer and the Company-consumer, it might almost seem as if a new industry had been created, having for its special object the destruction of all other industries whatsoever. It is high time that a remedy should be applied to this crying evil, and no class of society is more directly interested than are our readers in its being done, and done soon. The medical man who is laying by for the period of repose to which every hard-working man is entitled to look forward, can find no better investment for his savings than a well-managed and sound industrial company. As a rule, he is a fairly shrewd investor, but no acumen can make him safe from the depredations of knaves whom a defective law furnishes with the means of power of mischief, and protects from condign punishment. Is it too much to ask that these anomalies should be redressed, and that the law should be armed for the effective punishment of wrong-doers of this class? Surely we may fairly

ask to be defended from the swindler as we are already defended from the burglar and the bully.

THE *Hospital* reports and justly comments upon a marvellous and mischievous misstatement, or rather a series of misstatements, by which, it alleges, a City Company was induced to send "a very large grant" to one of "the metropolitan hospitals." The statements (by the mover of the grant) as given by our contemporary, were much as follows:—"That Hospital Sunday was everywhere a failure, because it not only lessened the aggregate amount of the income received by hospitals as a whole, but it destroyed the source of income. People who formerly gave pounds now give pence, or more probably 'buttons only,' through the offertory; and, finally, that so serious was this injury to hospitals, that the late Dr. WAKLEY expressed the deepest regret that he had ever been associated with Hospital Sunday." It is devoutly to be hoped, for their own sakes, that the City Companies are treated to more accurate statements in general, and that their liberal gifts are extracted by sounder arguments than these. Our contemporary has well disposed of the statement that Hospital Sunday has resulted in a loss to the hospital revenues. On the contrary, there is a clear gain to them of £20,000 per annum, on comparing the receipts of 1885 with those of the year preceding the institution of Hospital Sunday. At a very recent meeting of the Hospital Sunday Fund, the treasurer of the London Hospital and the treasurer of another metropolitan hospital explicitly stated that they had lost no subscriptions by Hospital Sunday. The London Hospital alone—that light in the dark end of London—has received in the last thirteen years from the Hospital Sunday Fund £40,742, and, according to its treasurer, this is all money to the good. We do not believe in the "buttons" theory much. The man who in a church would put buttons into a hospital collection is exceptionally mean and base, and must be a rare exception; and it is certain that the appeals and personal efforts of the ministers of religion have stimulated the erstwhile latent charity of many thoughtless and unimaginative people, who till then never considered what a hospital and its ministrations did for the sick who "cannot recompense" those who benefit them. It is possible and even true that some of the "Dispensaries" do not receive from the Fund all that they received from the collections of local churches. But this is a small set-off against a great movement, and one that should be easily corrected by local charity. But we have to make stronger protests still against this misleader of City Companies and other liberal bodies. His assertion that the late Dr. WAKLEY regretted his association with Hospital Sunday is one of the worst forms of misrepresentation that we can imagine, both as regards the deceased and the institution which he was the means of establishing in London, and which in the sufferings of his last days he cherished and supported so warmly. We have no idea which hospital is referred to, nor do we know the name of the City Company, but, assuming the accuracy of the report, it would have been more creditable to the orator if he had urged himself and his audience to a personal imitation of Dr. WAKLEY'S example, instead of misrepresenting his deepest sentiments, and on this misrepresentation founding an appeal for a hospital which is described in the pages of a journal specially devoted to the material interests of medical charities as one of the "least well-managed" hospitals. We may add that the late Dr. WAKLEY has bequeathed by his will, in addition to his former gifts, £1000 to the Metropolitan Hospital Sunday Fund.

Annotations.

"Ne quid nimis."

ARMY MEDICAL SERVICE.

As the groundless alarm on the subject of relative rank has been set at rest, it may not be amiss again to bring to the notice of the War Minister a real and substantial grievance seriously affecting a considerable, and yearly increasing, number of the medical officers of the Army. We allude to the date of their commissions on entering the Service. Prior to 1877 the commissions of all the officers who passed through Netley were dated from the day on which they joined the Army Medical School. In that year, however, a change was made, and has since continued in operation, by which the commissions of Army medical officers are dated from the completion of the course of instruction, while those of the surgeons for the Indian Service continue to bear the date of its commencement. The Naval candidates, who were withdrawn from Netley, enjoy the same privilege as the Indians, their appointments dating from the period of their joining at Haslar. The practical result of this system is that the Army medical officers must always—at least, until selected for administration rank—be the juniors of the Indian and Naval medical officers who pass the competitive examination at the same time with them, and who have no recognisable claim which would justify their being placed over the heads of their fellow-competitors. We do not know upon what grounds this invidious distinction has been made, but in our opinion it is a most incomprehensible act of injustice. It cannot fail to have an injurious influence upon the supply of candidates for the department, and, unless it is remedied, will create a marked difficulty in procuring a desirable class of candidates for the Army Medical Service. We trust that Sir Thomas Crawford will press upon the attention of the War Office the claims of his officers to have this grievance redressed, and that the War Minister will take an early opportunity of altering a regulation which acts so unjustly upon a meritorious class of officers. We can scarcely doubt that it will only be necessary to bring the case under his consideration to ensure the placing of candidates for the Army Medical Service upon a footing of equality with those who enter the other branches of the public Service under precisely similar conditions as regards competition and qualifications.

THE SANITARY CONDITION OF NEW WINDSOR.

A MEETING of the Urban Sanitary Authority of Windsor was held last week, and the sanitary administration of the town naturally occupied the attention of the Council. An important step was taken in the adoption of the report of a committee recommending the appointment of an inspector of nuisances. The Council are to be congratulated on the promptitude with which they have carried out the advice on this point of the Local Government Board's inspectors. By systematic house-to-house inspection much can be done for the maintenance of the town in better sanitary condition; the more serious improvements will doubtless be undertaken after a conference which is to be held between the Authority and the owners of property mentioned

in the report of the Local Government Board. Already letters have been exchanged between the clerks of the Sanitary Authority and of the Board of Guardians with reference to the erection of a hospital for infectious disease and for the provision of a disinfecting chamber. A proposal appears to have been made to erect in the first instance an administrative block only, and then, as stated by a member of the Council, "if a disease broke out, a temporary erection could be put up in which the patients could be treated." It is to be hoped this course will not be pursued, for it is quite obvious that the authority would then be deprived of the opportunity for the immediate isolation of cases of infectious disease. While temporary accommodation was being prepared it is likely enough the disease would spread and the town would probably have to bear the expenses of a more serious outbreak for want of means for isolating the first cases. A temporary hospital is moreover in the end, more costly than a permanent building. The experience of the Metropolitan Asylums Board and of many hospital-providing boards throughout the country has shown this, and Windsor would be acting more wisely in providing for immediate use, whenever occasion occurred, accommodation for the isolation of any infectious cases which could not with safety be treated in their own homes. The last recommendation of the inspectors—the erection of a furnace for the destruction of house refuse—has been referred to the Street Committee for their consideration. An interesting report by Dr. Casey, the medical officer of health, on the sanitary condition of Windsor during 1886, was presented at the same meeting. The report is mostly of a statistical nature. It contains no description of the more insanitary parts of the town, probably because the Authority are already in possession of much information on this subject. The report states, however, that "one house was condemned as unfit for human habitation." It may be hoped that Torrens' Act will be more freely used in the future than in the past.

ABDOMINAL SECTION STATISTICS IN KIEFF.

PROFESSOR REIN of Kieff, in a paper read at the recent Moscow Congress, gave the results of the ninety-five cases in which he had performed abdominal section from 1883 to 1886. Of these, sixty were ovariotomies with four deaths, twelve were for removal of large cysts of the broad ligaments with one death, fourteen for myomata with three deaths. The remaining nine—viz., three exploratory incisions, one enucleation of a cyst in the broad ligament, one section of a purulent abdominal cavity, one section of a purulent cavity in the pelvis, one castration (*kholoshchenie*), one ovariotomy with excision of cancerous omentum, one removal of an echinococcus of the omentum—gave three deaths. The causes of the eleven deaths are thus stated:—Purulent peritonitis, four; gangrene of the pedicle, one; gangrene of the remaining part of the tumour, one; erysipelas of the leg, one; exhaustion, one; effusion of blood into the pelvis and acute nephritis, one; sepsis, one; and carbolic-acid poisoning during the operation, one. The general percentage of fatal cases was therefore 11·5. Professor Rein remarks that he has tabulated every case he had without making any exceptions, though two or three of the patients were almost moribund when the operation was performed. The arrangements of the hospital wards, too, were far from being satisfactory. Regarding the operations themselves, some difficulty is usually experienced with the subperitoneal or connective-tissue cysts. He, however, had always succeeded in getting them away entire, enucleating them from under the peritoneum, or cutting them out from the broad ligament. He does not agree with Schroeder's plan of washing to prevent hæmorrhage, but recommends instead the ligature of the ovarian and uterine arteries. He practised drainage in nine cases, using indiarubber tubes passing through the vagina in three and glass tubes passing through the abdominal wall in the other six. These glass tubes are twelve millimetres in diameter, and are shaped like a tracheotomy tube. The later operations show a decidedly lower mortality than the earlier, owing to various improvements which have been made in the wards rendering them less septic. Though Professor Rein recognises the importance of antiseptic measures, he is quite alive to their possible dangers. Latterly he has contented himself with disinfecting the room, instruments, air, and operator's hands, not applying any disinfectant directly to the surface of the wound, and not irrigating it. The instruments and operator's hands were washed in simple boiled or sterilised water.

UNIVERSITY OF CAMBRIDGE.

AN important report has just been presented by the Special Board for Medicine to the Vice-Chancellor of the University of Cambridge for communication to the Senate. It recommends that the period of study necessary for the M.B. degree be made in all cases five years, the exception hitherto existing in favour of Honours students being done away with. The examination in pharmacy and pharmaceutical chemistry, forming part of the second examination, has for some time, it appears, been unsatisfactory; and though the Board has on several occasions revised the schedule issued by them for the guidance of students, the reports of the examiners show that a considerable number of the candidates are imperfectly prepared, and fail to grasp the particular application of chemical principles which the subject involves. The Board now recommends that the student should, during the earlier part of his course, have his attention directed to the chemical aspect of the materia medica, the parts of the subject relating to the dispensing and prescribing of medicines being studied at a later stage in immediate connexion with therapeutics and clinical medicine. They propose to indicate this change by altering the title of the examination to pharmaceutical chemistry, and by making the examination itself mainly practical; while the practical study of pharmacy or dispensing may be deferred until the student is attending hospital practice. The regulations for the degrees of M.B. and B.C. are to be so modified as to ensure every person who is admitted to either degree being fully qualified in both branches of practice. Certain other minor changes are recommended, and should the report be approved by the Senate, of which there can be no doubt, the new regulations will come into force at the beginning of the ensuing academical year, October, 1887.

THE USE OF UNCOOKED MILK.

THE question of the habitual use of uncooked milk which prevails in this kingdom is one which demands serious attention. Again and again have milk epidemics of typhoid fever, scarlet fever, and diphtheria shown conclusively how severely the incidence of the disease in question has been felt upon those using uncooked milk, as opposed to those taking milk only after it has been boiled or otherwise cooked. At one time it was thought that the matter involved only the question of the cleanliness of the dairy, and the freedom of those engaged in its management from communicable disease; and the mere fact of milk coming from country dairies has been held to be a sufficient guarantee of its wholesomeness. As a matter of fact, our experience goes to show that the danger is at its greatest according as dairies are situated in the more remote and rural localities; for it is precisely in scattered rural areas that first cases of ill-defined sore-throat and other affections in the families of those having to do with cows and milk are most

likely to pass unnoticed. But recent experience has shown that disease in the human subject, whether unrecognised or concealed, is not the only—perhaps not the greatest—danger that has to be contended with in connexion with our milk services. It has now been shown that the cow herself may suffer from a disease which at present is rarely, if ever, regarded as of any importance by dairymen, and which may give to the milk, at the actual moment of entering the pail, the power of producing scarlet fever in those who consume it in its raw state. Just as the excellent arrangements which have been made for the medical supervision of dairies must at times fail to detect certain cases of disease in the human subject, so must any veterinary or other inspection of cows fail in certain cases to prevent scarlatina-producing milk from being despatched from the dairy. We would therefore once again urge the importance of using milk only after it has been boiled or otherwise cooked. And for those who have not habituated themselves to the somewhat altered taste of boiled milk as a beverage, we may note that if milk be boiled immediately after its delivery by the milkman and be then set aside in a cool place for some six hours, the taste which is sometimes objected to will be found to be almost entirely removed; and not only so, but milk so treated keeps good and wholesome for a longer period than does unboiled milk.

MICROCOCCUS PYOGENES AUREUS.

MM. GABRIEL, ROUX, and LEPINE presented to the Société des Sciences Médicales, at a recent meeting, a series of tubes enclosing cultivations of the M. pyogenes aureus, modified by the action of acetanilide. If a mixture of equal parts of agar-agar solution and a watery 1 per cent. solution of acetanilide be inoculated with a dose of M. pyogenes aureus taken from a normal cultivation, the development may be carried out as usual in a stove at a temperature of 35·6° C. The area formed by the growing colony is, however, less compact, less thick, more flocculent, and, what is more interesting, does not assume the yellow orange tint after growing for from twenty-four to thirty-six hours, but remains dirty white, and preserves this tint; but a particle of this cultivation transferred to ordinary agar gelatine grows into a colony which regains the ordinary characters and colouration of the micro-organism.

WORRY NOT WORK.

THERE is nothing new in the dictum that "It is not work that kills men, it is worry." This has been said, and in nearly the same words, scores of times previously, by most writers on the subject. Nor is the remark "Work is healthy—you can hardly put more upon a man than he can bear," original; but Ward Beecher puts the facts forcibly when he says "Worry is rust upon the blade," except that rust commonly accrues upon inaction, whereas there is not a little worry associated with work, although the two things are quite different. "It is not the revolutions that destroy the machinery, but the friction." This is the truth absolutely. Work is not only harmless, but beneficial, because it stimulates the organism to recuperate. Worry exhausts not only the power which nature sets apart for action, but the vital strength upon which depends the replenishing of this power; and so by living at high pressure, which means a worried and anxious life, we both spend interest and eat up capital, with the result that nothing less than beggary stares us in the face, and all because we will haste to be rich, or famous, or great, or in some way prosperous. It would be well worth while to endeavour to teach people to take things easily, and remember that most of the very best things of life, whether of mind, body, or estate, are those which come only to those who can wait, and are not to be had at all for "pushing," "hurrying," or "struggling." How directly and practically it is true, as a maxim of life, that *patience* is the highest virtue, none know better than those whose business it is to keep a ceaseless watch on the course of life, and to be ever ready with head and hand to aid and smooth its progress from the beginning to the ending.

PHYSIOLOGICAL ACTION OF COCAINE.

DR. FREIBERG, working under Dr. Blumenthal, at Kowno, Russia, has arrived at the following conclusions respecting the physiological action of cocaine (*Berl. Klin. Woch.*, No. 10). Cocaine is a powerful anæsthetic, its action being limited to the surface in its immediate neighbourhood; and when brought into contact with an exposed nerve the anæsthesia is distributed over the periphery, but the central end of the nerve and motility are unaffected. In doses of half a grain to a grain in rabbits, and rather more in dogs, cocaine causes anæsthesia of the cornea, dilatation of pupils, retraction of eyelids, and exophthalmos; tonic and clonic spasms may occur, with loss of consciousness, and often fatal issue. The epileptiform spasms are doubtless of cortical origin. A difference as to the anæsthesia is observed between dogs and rabbits when cocaine is applied to nerve trunks. In dogs reflexes are abolished; in rabbits they are increased. Cocaine has a special affinity for the sensory and terminal sensory fibres of the cortex cerebri, whose function it inhibits. The disturbance of coördination may be attributed to interrupted conduction in the sensory fibres, both central and peripheral; and the convulsions, which are the main cause of death in cocaine poisoning, are due to the vaso-motor spasm and anæmia of the cortex. Bromide of potassium and the application of cold to the surface counteract this tendency; but with the first appearance of symptoms of cerebral anæmia, these toxic effects of cocaine may be mitigated or banished by nitrite of amyl.

CRIMINAL ABORTION.

AN inquest was opened at Islington by Dr. Danford Thomas on Feb. 28th last, and concluded a week later, touching the death of Catherine Tupner, aged thirty-five years. The deceased woman was married and the mother of five children. She aborted on Feb. 12th, and on the following day Mr. Wickers was called in to attend her. She died on Feb. 22nd. A death certificate of "puerperal metritis" was given and registered, but, from information received that foul play was suspected, the coroner ordered an inquiry. At the post-mortem examination it was found that the abortion had been induced by operative measures. There were no wounds of the vulva, vagina, or os uteri; but in the cervix uteri were several deep elongated lacerations, extending for nearly the whole length of the canal. These lacerations tapered off at each end. The body of the uterus, which was uninjured and empty of the products of conception, save for portions of the uterine part of the placenta, showed pregnancy to have advanced for fully three months. The peritoneum was acutely inflamed, especially in the pelvis. On the left of the uterus there was extensive cellulitis and abscess formation. There was suppurative pia arachnitis over the anterior two-thirds of the upper surface of the brain. The spleen was pultaceous and enormously enlarged. In the left kidney was a hæmorrhagic infarct occupying a quarter of its substance. The liver was large and fatty, the result of pyrexia and blood poisoning. There were thus the local and general effects of septic inflammation developed to a marked degree. In the right ovary was a corpus luteum fully half an inch in diameter, consisting of a large black central blood clot and a peripheral corrugated zone of orange-coloured tissue. In the same ovary was a minute stellate cicatrix, the remains of a ruptured follicle due to a past menstruation or conception. In the left ovary was a cyst a quarter of an inch in diameter containing sepia-like fluid. These facts

relating to the ovaries are interesting, inasmuch as it is said the pregnancy was a twin one. It appears, then, that either both ova were liberated from the same follicle, or else the second corpus luteum failed to develop. Now, considering the extent of the lacerations of the cervix, and that the parts external to it were free from wounds, the opinion formed by the medical men consulted that the operation had been performed by a practised hand was well grounded. Clearly the deceased could not have inflicted the injuries herself, and it is scarcely possible that a person wholly unskilled in instrumentation of the uterus could have avoided wounding the vagina and os uteri. The jury returned a verdict of "Wilful murder against some person or persons unknown."

SIR JAMES PAGET ON THE DENTAL HOSPITAL.

THE efforts which were made this year to render the annual dinner of the Dental Hospital of London a success were amply rewarded. Sir James Paget took the chair, and amongst the guests were many eminent members of the medical profession, and all those present showed the greatest sympathy with the object of the meeting—namely, to create an interest in the good work done by the Dental Hospital, and to appeal to the general public for subscriptions to enable the premises to be extended, since they are quite inadequate to the increasing number of patients. Sir James Paget, in proposing the toast of the evening, observed:—

"It was difficult to estimate, for example, the amount of happiness which was given to the 40,000 people who had been attended in one year. This total was still increasing, and had increased, he believed, 4000 within the last month. Few persons had passed through life without knowing the happiness of good dental surgery. Let them imagine 40,000 people suffering without any hope of remedy. They might consider the comfort we had from the teeth. That very evening a great part of their enjoyment of a good dinner had been due to them. On the morrow their comfort would be in some way determined by the way in which their teeth had been judiciously employed. If they multiplied their pleasure by 40,000, they would estimate more nearly the benefits conferred by the institution. Besides, they were aware of the influence of the teeth on the general health. There they stood—the boundary between that which was dead and that which was to be living,—and upon them depended the first and often the principal step of what should be the progress in the change of the dead into the living by the process of digestion, and what the value of the living texture should be which had begun to form. Here the amount of good which they did was past measurement. The Dental Hospital was, as far as he knew, the best institution of the kind which was to be found in Europe, if not in the whole world."

SCHEDE'S METHOD OF DRESSING WOUNDS.

PROFESSOR MIKULICZ communicates to the *Przeglad Lekarski* an account of fifty cases of surgical operations which were treated by the method recommended by Dr. Schede at the last surgical congress in Berlin—viz., to allow blood to fill the wound and to lie between the lips after they are brought together, any deficiency in the quantity of blood being remedied by the use of the knife, the idea being that the blood either actually becomes organised or serves as a protection for the granulations as they are formed. The wound is covered with protective, to prevent evaporation. Professor Mikulicz's observations included six resections of joints, four amputations, six dissections, two ligatures of arteries, seven extirpations of large tumours, &c. In thirty-six of the fifty cases union took place without suppuration, in four there was extensive formation of pus, in five superficial suppuration starting from the points of suture, and in the remaining cases pus had existed previously to the operation, and the disinfection at the time not having been complete, it continued subsequently. The general condition of the patients was highly satisfactory, even in those cases where suppuration occurred, the temperature in no case rising much beyond normal. The dressings were not removed or changed for at least a fortnight, sometimes not for a month. This appears to be of great advantage in the case of bone and joint operations, where complete immobility of the parts is a desideratum. Other specified advantages attributed to this plan are that wounds attended with a loss of substance rapidly fill up, and the cicatrices that form are peculiarly soft and smooth. Professor Mikulicz does not find, as Schede did, that the existence of silver sutures in osseous lesions has any unfavourable influence on the cicatrisation of the wound. He remarks that it is important not to bind the external dressings too tightly to the wound.

THE VICTORIA UNIVERSITY.

A NUMEROUS deputation waited upon the Chancellor of the Exchequer, at the Foreign Office, on the 11th inst., to lay before him the claims of the Victoria University to an annual grant from the national exchequer in aid of the expenses of examinations for degrees, memorials in support of which had been adopted by a large number of public bodies in Lancashire and Yorkshire. The deputation, which was introduced by the Marquis of Hartington, urged that the Victoria University had exercised a beneficial effect on the general education of the district; that the future annual expenditure of the University was estimated at about £2500; and that it will be seriously impeded in its progress, and prejudiced in its usefulness as a centre of higher education, unless its resources can be supplemented by a grant from the public funds. Mr. Goschen undertook to give the matter his consideration, and to bring it before his colleagues, and stated that the consideration he would give it would be, if he might use the phrase, a benevolent consideration. The deputation then withdrew.

THE INTERNATIONAL STATISTICAL INSTITUTE.

THE next Congress of this Association will be held in Rome on the 12th proximo, and the preparations already on foot for the reception and entertainment of its members give promise of a brilliant gathering. Its president will be our countryman, Sir Rawson W. Rawson, and the programme just issued under his name is varied and interesting. The noble palazzo of the Ministry of Finance will be placed at the disposal of the Institute by his Excellency Signor Maghiani, Chancellor of the Exchequer; while Government and Municipality will vie with each other in making the sojourn of their guests both pleasant and profitable. In April the Roman spring is in its most enjoyable phase, whether for sight-seeing in the city or for excursions beyond the walls, and the high standard of health maintained throughout the winter is not likely to be lowered by steadier and more genial weather. In the various sections there is a rich fund of topics of medical interest, in which the voice of the profession will make itself heard through some of its most authoritative representatives. Sir Rawson's opening address will be followed by the arrangement of proceedings and other business formalities, and then the Congress will settle down to work on "Census Statistics—the differences which exist in the published results of different censuses, and proposals for arriving at the means of an international comparison" (reporter, M. Joseph Körösi); on "Social Statistics—the best method of measuring the social and economic condition of a country at any particular period" (reporter,

Professor von Neumann-Spallard); on "Economic Statistics—budgets of family expenses, as to the measure of the well-being of individuals, families, and nations" (reporter, Dr. Ernst Engel); and on "Vital Statistics—report on the fecundity of marriages, by M. A. N. Kiaer, in continuation of the report which he presented to the Statistical Society of Paris at its twenty-fifth anniversary." Other sections in which the reporters are such well-known statisticians as Mr. Robert Giffen, Major P. G. Craigie, M. Emile Levasseur, Dr. von Inama-Sternegg, and M. A. de Foville, will further enhance the interest of the discussions; and after the place and time of holding the next Congress of the Institute has been agreed upon, the proceedings will close on the 16th prox. Those of the profession who intend to assist at the approaching Congress with special contributions of their own or of their friends are requested to intimate the same to the President, Sir Rawson W. Rawson, at his London address, 68, Cornwall-gardens, S.W., before the 31st inst.

THE FACULTY OF NANCY ON THE ASSISTANT PROFESSORIATE (AGRÉGATION).

THE Nancy Faculty of Medicine having deputed MM. Hecht, Bernheim, and Heydenreich to examine into the regulations for the competition for the grade of *agrégé*, or assistant professor, and into those concerning the subsequent employment of the fortunate candidates, this committee has just published a report on the subject in the *Revue Médicale de l'Est*. This report recommends that, considering the difficulties of obtaining the coveted grade, the tenure of the position should be extended from the nine years, which is its present duration, to fifteen years, at all events in the provincial faculties. This would tend to assure most of the *agrégés* of ultimate appointments to professorships. The report also suggests some alterations in the examination for *agrégation*—namely, the omission of the essay on an anatomical or physiological subject, and of the thesis and disputation on it: the judgment of the jury being instead based upon (1) the previous record and works of the candidates; and (2) a lecture of three-quarters of an hour, similar to that which is now required, but giving the candidate the choice of three subjects, instead of confining him to one as at present. No opinion is expressed on the locality of the examinations. At present they are always held in Paris, and complaints are sometimes heard that provincial candidates are at a considerable disadvantage in comparison with those who have studied in Paris.

SCHOOL HYGIENE.

A CORRESPONDENT sends us his own experience of the sanitary condition of private schools, which is no doubt shared by others who have directed attention to this subject. He sent his son to a private day school where the drainage and ventilation were defective, and an attack of gastric fever resulted in his removal to another school, where again the house was not free from unwholesome smells. A complaint to the schoolmaster was met with the request that the boy should be withdrawn. A third school was found, but this had the important disadvantage of being so constructed that the pupils were required to work in shadow while they faced the full glare of windows. Our correspondent pleads for some proper control over these institutions; the matter is indeed very much in his own hands and those of other parents. If schoolmasters found that the guardians of children required satisfactory evidence of the hygienic condition of the schools to which they propose to send their children, there is but little doubt the necessary improvements would be effected. It is not probable the Legislature would consider that school-houses should be dealt with differently from dwelling-houses; nor, indeed, if sanitary authorities were endowed with special powers for these institutions, can it be expected they would be adequately exercised. It is therefore desirable that efforts should be made to induce parents to recognise the importance to their children of health conditions, and we might suggest that schoolmasters would be consulting their own interests in meeting the reasonable requirements of those who entrust their children to their care.

CONDITIONS OF SUCCESSFUL PRODUCTION OF LOCAL ANÆSTHESIA IN TOOTH EXTRACTION.

DR. A. LEBRUN of Brussels and his house-surgeon, M. Andries, have published the notes of twenty-nine cases in which they employed local cocaine anæsthesia for the extraction of teeth. In twenty-three cases the anæsthesia was complete, in one case partial. In the remaining five cases the procedure was unsuccessful. This is attributed by them to the difficulty of introducing the short straight needle of the ordinary hypodermic syringe in the case of the second and third molars, and also perhaps to no precautions having been taken to prevent the escape of the liquid. They point out that M. Viau of Paris, who succeeded in producing complete anæsthesia in every one of his eighty-six cases, made use of a specially constructed syringe, with a holder by which it could be grasped firmly between the index and middle fingers, and provided with needles of various degrees of curvature; also that he surrounded the tooth with plugs of cotton-wool, and applied the finger over the puncture after the withdrawal of the needle. Besides which he made the patient keep rinsing his mouth with cold water during the five minutes that intervened between the introduction of the cocaine and the actual operation. These precautions were not observed by MM. Lebrun and Andries. They used, however, a solution similar to that of M. Viau—viz., fifty centigrammes (seven and a half minims) of a 2 per cent. solution of carbolic acid containing five centigrammes (three-fourths of a grain) of hydrochlorate of cocaine, half of which quantity was injected into each surface of the gum.

THE TEACHING UNIVERSITY MOVEMENT.

THE Councils of University and King's Colleges have arranged to act conjointly in the movement for promoting a new university in London. They have accordingly addressed letters to the Presidents of the Royal Colleges of Physicians and Surgeons offering to join the Councils of those bodies in promoting a joint charter for the proposed new university in London, in which the Faculties of Arts and Science would be formed by University and King's Colleges, and that of Medicine by the Royal Colleges. If this proposal be favourably entertained, the movement will satisfy those who wish for an academical status, as well as those who only ask for a purely professional degree.

THE GENESIS OF ELASTIC FIBRES.

DR. SERGIO PANSINI of Naples publishes the results of his researches into the origin of the elastic fibres of connective tissue and elastic organs in *Il Progresso Medico* of January and February last, as follows:—1. Elastic fibres, large and small, have a cellular origin, derived from cellular elements, which, on account of the transformations they undergo, may be considered as having special characters. 2. The process of transformation consists in the elongation of the cellular elements, first of the protoplasm, afterwards of the nucleus. 3. The process of transformation begins in the protoplasm, and is continued by the nucleus, which on this account has an important histogenetic value. 4. Once formed, the elastic fibre is solid, not hollow. 5. The granular appearance shown by all elastic fibres is not an indication

of the origin of these fibres by fusion of the granules of a fundamental substance, but is due to the arrangement of the integral substance of the fibres. 6. Elastic fibres in the ligamentum nuchæ are not united by simple cementing substance, but by a connective network, which embraces each individual fibre in its meshes. In thickened portions of this connective tissue the arteries and veins ramify, and also by its means the plasmic juices are distributed in organs poorly supplied with vessels.

GUY'S HOSPITAL.

"AN Inquirer" in the *Daily Chronicle*, who has not the courage to put his name to his letter, suggests extravagance in the administration of Guy's Hospital, as in sums spent in the treasurer's house and in highly paid local stewards on each estate. We need not say how easy it is to stop the flow of charity and to insinuate extravagance, where probably none exists. To do this to an institution like Guy's suffering acutely from the depression of the times, is not a creditable achievement. We do not pretend to know much about the details of the administration of Guy's, and we think it quite possible that the authorities would act wisely in taking the public a little more into their confidence. But we are able to say that the suggestions of the letter are most inaccurate and unfair to the hospital. It is not the case, as suggested, that the sum of over £5000 was spent on the treasurer's house when rents were greatly falling; only £2000 were spent on the house and furniture, and that when the treasurer came into office in 1876, and as a condition of his doing so, nothing having been done to it for twenty-seven years prior to that time. When these necessary repairs were made the hospital was in prosperous circumstances and saving money. It is not true, as implied, that the treasurer is a "highly-paid" official. He is an unpaid officer, but has a furnished house, on which no money has been expended for eleven years. The management of the estates is a matter on which opinions may differ. They consist, we believe, of 50,000 acres, chiefly in Herefordshire and Lincolnshire. There is a land steward in each case. One has a house only, and the other is paid a commission on the rents. We have said enough to make anonymous critics of great charities a little more careful in pursuing their easy but unwise calling.

RESEARCHES ON THE REFRACTION OF THE EYE IN STOCKHOLM.

PROFESSOR JOHANN WIDMARK has recently concluded a long series of researches upon the state of the refraction of the eye in the schools of Stockholm, and he has had the opportunity of examining 704 males and 742 females. The results he obtained were as follows: In the first schools, comprising children from six to seven years of age, there was no myope. In the second set of schools, comprising girls from eight to nine years of age, there was only one myope. In the corresponding school for boys the myopes had risen to 14 per cent. This difference is probably due to the fact that the boys have to undergo a special examination for entrance into the first class of the secondary schools, and are consequently compelled to work harder in the preparatory school. At the age of sixteen, when female education usually ceases in Swedish schools, 33 per cent. of the girls were myopic, the mean amount of myopia being −2·5 D, which was about equal to that of the boys at the corresponding age. In the higher schools the girls proved to be more frequently and more highly myopic than the boys, the proportion being 54·28 per cent. with an average of −3·3 D, although the girls' schools took from one to two years' more time over the same subjects. The maximum frequency of myopia, 66·67 per cent., occurred in a girls' school, and the maximum amount of myopia, −4·16 D, also occurred in a girls' school, which seems to show that an excess of work for the eye is more injurious to girls than to boys. This depends in part perhaps upon the greater feebleness of the girl as compared with the boy, but it is in part due to the fact that in leisure hours the girl occupies herself with handiwork requiring close attention, and with music. Moreover, the means of physical education are very inferior in schools for girls, and gymnastic exercises are either not at all or very insufficiently practised.

AFTER-EFFECTS OF THE EARTHQUAKES ON THE NERVOUS SYSTEM.

IT is curious to note that many persons who were calm and apparently not greatly disturbed by the earthquakes which recently occurred in the Riviera have since suffered seriously from the effects of shock. This fact shows beyond the possibility of question that more may be done in the way of injury to the nerves by an undue excitement than is at the time perceived, just as more may be done in the way of restoration to nervous health after an illness than is immediately evident. The explanation of these seemingly paradoxical effects is to be found in the fact—perfectly familiar to every student of nerve-troubles—that in a very special manner health in respect to the nervous system is dependent upon the integrity or orderly performance of nutritive functions. Muscular tissue may be badly nourished for a time, as in the course of an ordinary illness, and as soon as convalescence is fairly established recovery of the wasted muscles will commence, use stimulating re-growth naturally, with the result of perfect recovery in a comparatively short time. It is not thus with nervous tissue, whether in brain, spinal cord, or nerve trunk. When from any cause nutrition is impaired in a nerve centre or branch, not only is there extraordinary difficulty in restoring the integrity of nervous function, but the wear and tear of ordinary life, even when these are reduced to a minimum, seem to increase the exhaustion instead of reducing it by stimulation of the recuperative faculty. The reason of this seems to be that nerve centres, like batteries, are apt to be discharged suddenly and sometimes unconsciously; and when once what may be termed the residual stock of energy is consumed, it takes a very long time and often extreme carefulness to restore this reserve. Until the loss of strength held in reserve is slowly accumulated by an excess of production over consumption, the nervous system is, so to say, working on its daily strength, and can have none of that buoyancy which is due to the existence of a stock of force which has been unexhausted. No doubt those present in the earthquakes, though calm, were subjected to a severe strain, and they have not yet had time to recuperate.

LIABILITY OF AGENTS FOR MEDICAL CHARGES.

THE County Court judge at St. Helens, trying an action by Dr. Edward Casey to recover £14 12*s.* for attendance on four men from the Collin's-green Colliery Company, said that the manager of a company might send for a medical man on grounds of humanity without thinking that he incurred liability. The claim of the plaintiff was based on the fact that he had been sent for by the manager on the occurrence of an explosion by which the men were injured. The charge was for one day's attendance and operations. The particulars are not given, and we cannot pretend to judge of the reasonableness of the charges. But the judge's doctrine is one to which we cannot assent. The manager of a company is a responsible agent, and must be held so when he sends for medical men. It is very easy to be humane at the expense of the medical profession, but there has been too much of this kind of humanity. The judge gave judgment against the manager for three guineas, and laid down that

the company were not liable. The manager had himself offered £10 in settlement, but this had been declined by the plaintiff, who obtained leave to appeal. We are glad of this, for the view taken by the judge is, as the counsel for the plaintiff said, one of serious import to the profession, and ought to be settled by higher authority.

"DEATH-TRAPS."

WE are glad to find that those wretched gratings which afford means of ventilating (!) the sewers on the street level in the great majority of our public thoroughfares are beginning to be regarded in their true character as "death-traps." Nothing but the most strange obtusity, or an inexplicably perverse ingenuity in the defence of a hopelessly condemned system, can account for the fact that there are still persons who speak with authority on the subject of sanitary engineering to be found saying smooth things of the street level ventilators and man-holes. There is something so grotesque in the notion of intentionally establishing any way of escape for the gases generated in sewers into the atmosphere at the levels where people walk that nothing but amazement can be excited by the re-utterance of all the silly things that have been said by the defenders of this system. There is only one rational remark to be made on that side of the question, and it is that it would cost a great deal of money to get rid of these surface ventilators and man-holes and to replace them by reasonably sanitary apparatus; for example, high ventilating shafts reaching above the level of uppermost rooms and chimneys. This is the very most that can be said in defence of the *status quo*. The reply is obvious. Nothing can be done to amend a condition of matters which is wholly indefensible without a large expenditure; but when we remember that lives are distinctly sacrificed to the evil genius of persistent blundering, it may well be concluded that it would be worth a good deal to put an end to the slaughter if only because we do not know *who* the next victim may be.

THE LONDON HOSPITAL.

WE regret to hear that there is a considerable amount of friction existing at present between the medical staff and students of the London Hospital. For some time there has been dissatisfaction felt, and partly expressed, by the students, but this recently culminated when one of the surgeons was openly hissed by a body of the students when about to visit his wards. The commencement of the difference would appear to have been the appointment to the new office—that of receiving-room officer—of a gentleman holding University degrees, but who had not gone through the full course at the hospital.

THE ETIOLOGY OF DYSENTERY.

IN a communication to the Bohemian Medical Society Professor Hlava gives an account of a number of observations he has made on the subject of the etiology of dysentery. He examined the stools and the bowels with their contents post mortem in sixty cases of epidemic dysentery, also in two cases of a sporadic nature, and in ten where the symptoms of dysentery were developed as complications of other diseases. He also injected the fresh stools of dysenteric patients into the rectum or duodenum in seventeen dogs, six cats, eight rabbits, hens, and porpoises, and made seventy cultivations of bacteria of various kinds found in dysenteric stools. The conclusion he arrived at was that bacteria are not the cause of dysentery, for none of the micro-organisms were reproduced in the animals experimented upon, only a transitory catarrh being found. No qualitative anatomical distinction could be made out between cases of epidemic and of sporadic origin. Professor Hlava investigated the amœbiform large-grained protoplasm which he found in the dejections in considerable quantity in sixty-five cases, and on the intestinal mucous membrane and in the submucous tissue in twenty cases. On putting these bodies under the microscope, he found that the amœboid movements continued for ten hours. He has commenced a series of observations on the effects of injecting them into the intestines of animals, with the object of showing that these bodies have a causal relation to the disease.

PRECAUTION AND PANIC.

ITALY must clear herself of the reproach that in face of an epidemic she has recourse to measures which the calmness begotten of forethought might have spared her. The re-appearance of cholera at Catania, due to her neglect of the sanitary precautions suggested by its recent presence in other parts of Sicily, has made her impose in hot haste a five days' quarantine on all departures from Sicilian ports, so that to get from that island to the mainland one must steam from Palermo to Bastia in Corsica, and thence make the best of one's way to the Italian seaboard. Her better-inspired organs of opinion are denouncing this hygienically useless and commercially disastrous measure. "Notre politique sanitaire est déplorable," says the Roman *Italie*; but how is it to be helped when the deputies to the Corps Législatif yield to the clamour of their ignorant and panic-stricken constituents, who insist on imposing quarantine on their compatriots? The enlightenment of the masses, the deepening and elevating of their sense of citizenship, must in Italy precede much sanitary legislation which in England has long been the law of the land. Italian physicians, too, by their adhesion to quarantine and hygienic cordons, must cease to justify the superstitious laity in its reliance on such "precautions."

DEATH OF DR. CARRINGTON OF GUY'S.

WE regret to say that Guy's has sustained another misfortune in the death of Dr. Carrington. He was senior assistant-physician, and died on Wednesday morning from pleuro-pneumonia after two or three days' illness. On Sunday last he made an important post-mortem of a man who died from symptoms much resembling those of glanders, and it is thought that he may have become infected with some animal poison. This is the fourth physician which Guy's has lost in four years. We shall reserve any further notice of Dr. Carrington, only now remarking that in his death the profession loses one of its most popular members, who was as modest as he was promising.

"BLUE-STONE" AS A TOXIC AGENT.

A LABOURER was recently charged at the West Ham Police Court with attempting to commit suicide by taking sulphate of copper. From the evidence it appears that the accused went to a chemist's near his residence and purchased a pennyworth of "blue-stone." On being served, he put the drug in his mouth and commenced eating it. The chemist attempted to stop him, but the prisoner declared that he was tired of life and would do as he liked. In a few minutes, however, the sulphate of copper acted as an emetic, and the man was then given into custody. On being brought before the magistrate, he expressed regret at the occurrence, and was discharged with a caution. We do not know what quantity is usually supplied by chemists for a penny, but an ounce not infrequently gives rise to disagreeable symptoms, and might even be attended with a fatal termination. The best treatment would be to give eggs and milk freely, or arrowroot and barley-water, with a hypodermic injection of morphine to allay pain. It does not appear that in this case any large quantity was taken.

MYXŒDEMA.

THE Myxœdema Committee of the Clinical Society of London has completed its investigation of the etiology, symptoms, and morbid anatomy of this interesting disease, and it is now engaged in studying the question raised by Professor Kocher's observations of the effects of total extirpation of the thyroid gland. For this purpose Dr. Felix Semon has issued a letter to all surgeons who are known to have performed this operation, asking for a statement of the results observed. We are requested to state that it is very desirable to have this part of the committee's investigation as complete as possible, and it is hoped that all who can will return full and accurate replies to the questions given. If anyone who has information on this point does not receive a circular, he is requested to apply at once to Dr. Felix Semon, who will be pleased to furnish him with one. The circular contains an admirable account of the clinical features of the disease and a photograph of a typical case. We trust that the committee will meet with a hearty response to its request for facts, and that it will be enabled to furnish its report quickly.

CHOLERA IN SICILY.

CHOLERA continues at intervals to occur at Catania. From midnight on the 10th inst. to the morning of the 12th there were seven cases and one death. So far, the disease appears limited to this one town in the island of Sicily.

On this subject our correspondent at Rome writes, March 14th:—"Grave doubts having arisen in medical circles as to whether or to what extent the recent outbreak at Catania is choleraic in character, the Superior Council of Health has deputed thither a sanitary commission composed of Professors Albanesé of Palermo, De Renzi of Naples, and Marchiafava of Rome, to study and determine the nature of the disease."

DEATHS OF EMINENT FOREIGN MEDICAL AND SCIENTIFIC MEN.

THE deaths of the following foreign medical and scientific men are announced:—Dr. Bonamy, Professor of Anatomy at Toulouse. Dr. Carl Heinrich Reclam, Professor of Hygiene and Medical Jurisprudence in Leipsic, and editor of *Gesundheit*, at the age of sixty-five. M. Emile Leudet, chief of the Preparatory Medical School at Rouen.

A NEW INHALER.

DR. COZZOLINO, lecturer on Laryngology &c. at the University of Naples, has introduced a very simple form of inhaler, consisting merely of a pair of metal tubes three-quarters of an inch in length connected by a curved band, which are inserted into the nostrils and can be worn for some time without discomfort and without attracting much attention. Within the tubes a bit of blotting-paper is placed, which is then saturated with whatever substance the patient is ordered to inhale; he must then inspire by the nose and expire by the mouth, and by this means will take the whole of whatever dose of volatile liquid the blotting-paper may contain.

DIRTY AND TROUBLESOME INCURABLES.

THESE classes of patients ought surely to be removed from asylums and provided for elsewhere, if asylums are to be expected to do curative work. Dr. Rorie insisted strongly on this reform in a paper read before the Medico-Psychological Association in Edinburgh, and we entirely agree with the opinion he expressed. If the non-dangerous classes can be accommodated in workhouses, those which only need supervision for the enforcement of cleanliness and the promotion of ordinary comfort ought to be disposed of in the same manner. As we have so often contended, if only it could be seen that *hospitals* for the insane would do infinitely more to reduce the proportion of persons attacked with mental disease who became hopelessly insane than *asylums* can possibly do, there would be not only a large economy of brain-power and sanity in the population as a whole, but a great saving of money to the ratepayers, to the general advantage and content.

MEDICAL HONOURS.

AT an investiture held by the Queen at Windsor Castle on the 14th inst., Sir George Christopher Molesworth Birdwood, who had been already knighted, was introduced into the presence of Her Majesty and invested with the insignia of his dignity in the Order of the Indian Empire. In like manner Surgeon Charles William Owen was introduced and received the badge of his dignity in the Most Distinguished Order of St. Michael and St. George. The following Companions of the Order of the Indian Empire also received their badges: Brigade Surgeon Henry Elmsley Busteed and Dr. Thomas Beath Christie.

GASTROTOMY IN ITALY.

THE *Gazetta degli Ospedali* of February 23rd gives the details of a gastrotomy performed by Professor Loreta of Bologna, on account of severe pain suffered by a young woman who had swallowed a large quantity of needles with the intention of committing suicide. On searching the stomach carefully with the hand, few needles could be found. The cause of the pain and suffering was explained by further search and extension of the abdominal incision to the right over the liver. The points of several needles were found protruding above the surface of the margin of the left lobe of the liver, and these were deemed to be the source of the pain. Some were withdrawn, but others were so fragile that they broke off. The wound in the stomach and the abdominal parietes was accurately sutured, and the patient recovered without a bad symptom, entirely freed from her suffering.

SUPERVISION OF SLAUGHTERHOUSES.

THE London Model Abattoir Society is doing excellent work in the interests of both humanity and public health. The atrocious cruelty of some of the men and boys employed in slaughterhouses, partly because they are brutal and partly because they are ignorant of their business, calls urgently for reform; while the perils to which health is exposed by the way in which meat is prepared for use as food are of a very alarming character. Better inspection is clearly necessary, and upon this need the Society, which has Dr. B. W. Richardson for its president, strongly insists.

INSTANT AND EASY DEATH FOR CRIMINALS.

IN so far as it is prudential to divest the death penalty of its ignominy and terror, it will be satisfactory to find the progress made in obedience to the dictates of humanity in searching for an instantaneous and easy death to supersede that by hanging. The Legislature of New York having appointed a committee to deal with this grim subject, the result is a recommendation to employ electricity. The whole question seems to us to be one of policy. If it be decided, first, that it is justifiable to take life at all, and, second, that the least appalling mode of execution is to be preferred, then there can be no question that electricity offers a promising mode of killing quickly and painlessly. On a recent occasion we commented with regret on what certainly appeared to us a too theatrical mode of execution.

It is most desirable to avoid casting a glamour of fascination about the death penalty. Is there not a peril of doing this in the impulse to be humane?

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—The recent medical vacation classes have been well attended by foreign practitioners. Out of 148 there were seven from England and Scotland, thirteen from North America, thirteen from Sweden and Norway, six from Brazil, and two from Japan.

Buda-Pesth.—Dr. David Onodi has qualified as *privat docent* in Embryology.

Dorpat.—The Russian Ministry of War has arranged to give a grant of £250 to a laboratory and clinic that is about to be established in connexion with the Veterinary School for the express purpose of investigating the subject of glanders.

Gottingen.—Dr. Wolffhügel has been appointed Professor of Medical Chemistry and Hygiene, and Director of the Institute in connexion with these subjects in succession to Professor Flügge, who has gone to Breslau.

Leipsic.—Professor Heubner, who had at first accepted the invitation to the chair of Therapeutics at Prague, has, at the urgent solicitations of his friends, decided to stay in Leipsic.

AT a late meeting of the Hexham Board of Guardians the following resolution was proposed and carried: "That the medical officers of this Board be requested to discontinue as much as possible the use of intoxicating drink to the pauper patients of this union, and only to order its use in urgent cases." One of the guardians had the good sense to say it was a very delicate thing to interfere with a medical man's prescriptions for his patients, and another stated that the consumption of alcohol in the Hexham Union was much below the average of England. How little this absurd resolution was required at Hexham was pointed out by the master of the workhouse, who stated that there was now only one inmate, an old woman of ninety-five, receiving alcohol in the house. There are other matters, perhaps, to which the Hexham guardians might profitably devote their attention rather than medical prescriptions.

BY Lord Gifford's will, which was published on the 11th inst., it is proposed to found in each of the four Scotch Universities a Professorship of Natural Theology, the lecturers to be submitted to no test of any kind, to be of any denomination whatever, or of no denomination at all, and to be charged with the free discussion of all questions about God and the Infinite, their origin, nature, and truth. In case the Senatus Academicus of any university should be tempted to decline the munificent bequest in consequence of the condition with which it is accompanied, it is specially provided that the Faculties of Physicians and Surgeons, or of Advocates, may, if necessary, take the place of the university.

A WORK, by Dr. Alfred Carpenter, of interest to educationists and social reformers, entitled "The Principles and Practice of School Hygiene," will be issued next week by Mr. Joseph Hughes, of Pilgrim-street, Ludgate-hill. The book will be profusely illustrated, and will contain special chapters on the cure and prevention of disease in the family.

THE Gordon Boys' Home is to be commenced at once on a piece of ground near Bagshot, and is expected to cost £10,000. This estimate does not include a small hospital, which the committee consider necessary, and for which funds are wanted.

WE may remind intending candidates for the vacant posts of Examiners in Medicine and in Forensic Medicine in the University of London that their names must be sent in, with any attestations of qualifications they may deem desirable, on or before Tuesday, March 29th. Our note last week was inaccurate in stating that the former holders of the offices of Examiners in Medicine offered themselves for re-election, the appointments being actually as well as nominally vacant.

THE Bishop of Peterborough has lately made an excellent speech on Temperance, insisting that intemperance has many causes, and that moral and social remedies are of as much, if not more, consequence than legislative ones. He expressed the opinion that this country was more deficient in social and innocent amusements than any other, and that the sanitary condition of the people required careful consideration—views in which we heartily concur.

STATE MEDICINE in Italy has just lost an able and energetic representative in the Senator Angelo Grossi—a physician of high reputation as a consultant before his patriotic services secured his election to Parliament for his native Lombard constituency, and his further nomination as one of the "Patres Conscripti" of the new Italian kingdom.

ON Saturday last Dr. Waters was presented at Chester with a testimonial in the form of his portrait by Mr. Frank Holl, and a cheque for £296. The profession to which he belongs, and for which he has worked heartily, will be gratified by this latest tribute to him.

A SEVERE epidemic of measles has recently been raging in Norwich. Scarcely one point of the city has escaped infection, and the schools, both day and Sunday, in the neighbourhoods in which the disease has been most prevalent, have been closed.

WE are asked to state that the Jacob testimonial fund now amounts to a sum nearly approaching £500. The subscription list will close on Monday next. Professor E. Hamilton, 120, Stephen's-green, Dublin, is the hon. treasurer.

As the result of injuries received on the Great Western Railway a few days since, Mr. A. Ellis Eyton, L.R.C.P. Ed., L.F.P.S. Glas., lost his life. Mr. Eyton was forty-five years of age, and practised in Hammersmith.

THE objects of some sections of the Rivers Pollution Prevention Act of 1876 having been ascertained to be impracticable, Mr. Thorburn, M.P., has introduced a Bill to amend certain of the sections of the Act.

ARMY ESTIMATES.

THE army estimates for 1887-88 show a decrease under the head of "Medical Establishments and Services" of £9000. There is a reduction of £5980 in the pay of "medical staff," £3300 in "departmental and duty pay of medical staff corps, nurses, and miscellaneous labour," and £1100 in "cost of medicines," while there is an increase of £1280 in the pay of civilian medical practitioners. The *personnel* of the department, inclusive of the staff at headquarters, but exclusive of 335 officers employed in India, is estimated at: 1 Director-General, 8 Surgeons-General, 18 Deputy Surgeons-General, 559 Brigade-Surgeons, Surgeons-Major, and Surgeons, and 54 acting medical officers. The latter are officers on the retired list, who are employed in special appointments and receive £150 per annum, in addition to their retired pay.

The pay and allowances of the medical staff and of an average of 25 surgeons on probation at Netley amount to £254,720. The expenses of the Army Medical School at Netley are stated at £7641, but this includes £700 as the allowance to the examiners of candidates for admission to the service, and also an item of £200, which appears for the first time, under the head of "Allowance to Army Surgeons in Aid of Expenses incurred in obtaining Certificates in Operative Surgery." Deducting these two items, the sum required for the school amounts only to £6741. From the amount taken for surgeons on probation, the number of vacancies to be provided for in the department during the year appears to be estimated at 50. In addition to the charge for army medical officers, £6400 are wanted for the pay of civilian medical practitioners and medical bills, of which £6000 are for home and £400 for colonial services.

The retired pay for medical officers is estimated at £182,000, being £20,000 in excess of the preceding year, almost entirely due to an increase in the number of surgeons-major. There are at present only fourteen medical officers on half-pay who are eligible for employment. The usual amount of £1400 is taken for rewards to medical officers for distinguished or meritorious services.

The strength of the Army Hospital Corps is estimated at 2640 of all ranks, of whom 2080 are on the home and 560 on the colonial establishment. The amount taken for the regimental, departmental, and extra duty pay of the corps is £112,410. There is also a sum of £11,650 provided for the pay of nurses, extra duty of regimental orderlies and miscellaneous labour. For the pay of surgeons of the Militia, including allowance for medicine &c., £6000 are provided, and £500 for departmental pay, Militia Reserve Medical Staff Corps. Under the head of "Army Sanitary Committee" there is a charge of £1150, being an allowance of three guineas a day, when employed, to one civilian member, and contingent expenses of the committee.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5782 births and 3836 deaths were registered during the week ending March 12th. The annual death-rate in these towns, which had been equal to 21·3 per 1000 in each of the two preceding weeks, further rose last week to 21·6. During the first ten weeks of the current quarter the death-rate in these towns averaged 21·9 per 1000, and was 2·3 below the mean rate in the corresponding periods of the ten years 1877-86. The lowest rates in these towns last week were 16·1 in Derby, 17·1 in Birkenhead, 17·2 in Leeds, and 18·1 in Wolverhampton. The rates in the other towns ranged upwards to 28·9 in Cardiff, 29·0 in Huddersfield, 30·3 in Oldham, and 33·7 in Manchester. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had increased in the preceding four weeks from 340 to 385, further rose last week to 412; they included 195 from measles, 83 from whooping-cough, 44 from scarlet fever, 32 from diarrhœa, 31 from diphtheria, 27 from "fever" (principally enteric), and not one from small-pox. No death from any of these zymotic diseases was registered last week in Wolverhampton, Derby, or Birkenhead; they caused, however, the highest death-rates in Huddersfield, Sunderland, and Manchester. The greatest mortality from measles occurred in Salford, Leicester, Bristol, Huddersfield, Manchester, and Sunderland; whooping-cough in Norwich, Oldham, and Plymouth; scarlet fever in Huddersfield; and from "fever" in Portsmouth. The 31 deaths from diphtheria in the twenty-eight towns included 13 in London, 4 in Manchester, 3 in Oldham, and 2 in Cardiff. Small-pox caused only one death in Greater London, and not one in any of the twenty-seven large provincial towns. Only 4 cases of small-pox were under treatment on Saturday last in the metropolitan hospitals receiving cases of this disease. The deaths referred to diseases of the respiratory organs in London, which had been 466 and 459 in the preceding two weeks, further declined last week to 433, and were as many as 72 below the corrected average. The causes of 92, or 2·4 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Preston, and in four other smaller towns. The largest proportions of uncertified deaths were registered in Sheffield, Halifax, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·5 and 23·6 per 1000 in the preceding two weeks, further rose to 25·0 in the week ending March 12th; this rate exceeded by 3·4 the mean rate during the same period in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 14·7 and 18·9 in Leith and Edinburgh, to 28·2 in Paisley and 29·4 in Glasgow. The 625 deaths in the eight towns last week showed a further increase of 36 upon the number in the preceding two weeks, and included 43 which were referred to measles, 25 to whooping-cough, 14 to scarlet fever, 11 to diarrhœa, 7 to diphtheria, 1 to "fever," and not one to small-pox; in all, 101 deaths resulted from these principal zymotic diseases, against 99 and 98 in the previous two weeks. These 101 deaths were equal to an annual rate of 4·0 per 1000, which exceeded by 1·7 the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of measles, which had been 23, 30, and 27 in the preceding three weeks, further rose last week to 43, of which 16 occurred in Glasgow and 27 in Aberdeen. The 25 deaths from whooping-cough showed a decline of 7 from the number in the previous week, and included 13 in Glasgow, 3 in Dundee, and 3 in Aberdeen. The 14 fatal cases of scarlet fever also showed a decline from the numbers in recent weeks; 7 were returned in Edinburgh and 3 in Glasgow. The 11 deaths attributed to diarrhœa corresponded with the number in the previous week, and included 4 in Glasgow and 3 in Edinburgh. The 7 deaths from diphtheria, of which 4 occurred in Edinburgh and 3 in Glasgow, exceeded the numbers in recent weeks. The single death from "fever" was registered in Paisley. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 121 and 142 in the preceding two weeks, declined again last week to 135, which were 56 below the number returned in the corresponding week of last year. The causes of 72, or more than 11 per cent., of the deaths registered during the week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 35·3, 30·7, and 28·1 per 1000 in the preceding three weeks, rose again to 31·3 in the week ending March 12th. During the first ten weeks of the current quarter the death-rate in the city averaged 31·3, the mean rate during the same period being but 20·8 in London and 21·5 in Edinburgh. The 212 deaths in Dublin last week showed an increase of 22 upon the number in the previous week; they included 5 which were referred to "fever" (typhus, enteric, or simple), 1 to measles, 1 to scarlet fever, 3 to whooping-cough, and not one either to small-pox, diphtheria, or diarrhœa. Thus the deaths from these principal zymotic diseases, which had been 14 and 15 in the preceding two weeks, declined last week to 10; they were equal to an annual rate of 1·5 per 1000, the rates from the same diseases being 2·1 in London and 3·2 in Edinburgh. The deaths from "fever" corresponded with the number in the previous week, and those of whooping-cough showed an increase, while the mortality from scarlet fever was smaller than in any previous week of this year. The deaths of infants showed a decline of 2, while those of elderly persons showed a further increase upon the numbers returned in the preceding two weeks. Seven inquest cases and 6 deaths from violence were registered; and 59, or more than a quarter, of the deaths occurred in public institutions. The causes of 30, or more than 14 per cent., of the deaths registered during the week were not certified.

BRISTOL CHILDREN'S HOSPITAL.—At the annual meeting of the supporters of this hospital on the 5th inst., it was reported that 584 children and 29 women have been under treatment as in-patients during the past year—being 70 per cent. more than the average number of the last ten years in the old building. In the out-patient department 755 women and 2116 children attended respectively 8305 and 16,743 times. The income just met the expenditure, the former amounting to £2109, and the latter to £2091.

Correspondence.

"Audi alteram partem."

THE JUBILEE AND THE HOSPITALS.

To the Editors of THE LANCET.

SIRS,—As the Queen's Jubilee requires commemoration in some manner worthy of her great reign, I beg to suggest that no better method could be found than to raise a fund for the permanent endowment of our great London hospitals. I think a fund such as you suggested last week, to free them from debt, would not be adequate to the occasion. The Imperial Institute and Church House will be supported by Loyalists and Churchmen all over the world, but unless some great scheme is started in London, to which all will feel bound to contribute, the money of the charitable will be frittered away in a thousand hobbies of doubtful utility. A sum of this magnitude would never be raised in the ordinary method of appeals to the benevolent few; but if the scheme were to receive the assent of the great body of the people, a voluntary assessment of a fiftieth part of the income of all those who now pay income-tax would receive a response sufficient for even so great a purpose.—I am, Sirs, your obedient servant,

Clifford-st., Bond-st., W., March 15th, 1887. G. SLIGHT, M.D.

*** We shall be only too happy if Dr. Slight's suggestion should find favour, and prove successful. Could not the heads of the medical colleges and the great hospitals organise a meeting to give form to the extensive wish to signalise the Jubilee by help to the hospitals?—ED. L.

PERFLATION IN EMPYEMA.

To the Editors of THE LANCET.

SIRS,—The method of perflation described by me in your issue of July 31st, 1886, was capable of improvement, and has been improved in two essential particulars. 1. The idea suggested by Dr. Sansom at the last meeting of the Royal Medical and Chirurgical Society (which the lateness of the hour prevented my acknowledging), as to the advantages of an antiseptic air-filter instead of a column of antiseptic fluid, occurred to me several months ago, and was put into practice. Instead of containing a short column of carbolic acid solution, the Woolff's bottle was filled with tow saturated with liquefied carbolic acid or with strong solution of thymol, with a view to securing the following advantages: (*a*) absence of any fluid which, through inadvertence, might be allowed to run into the chest; (*b*) considerable subdivision of the air during its passage through the tow, and thorough mechanical cleansing of the same; (*c*) increased facility for warming the air in the bottle when necessary. At an early date, however, I discarded the Woolff's bottle, preferring to use a broad tube (one inch and a half in diameter and about ten inches long) fitted at either end with an indiarubber plug and short glass tube, and packed with medicated tow. This apparatus can lie flat on the table or on the bed, and is simply a broader segment inserted in the length of the tubing. It can readily be warmed by placing it in an appropriate hot-water trough, or by keeping it surrounded with hot flannel. 2. For the other improvement I am indebted to a suggestion from Mr. Marten, house-physician to Addenbrooke's Hospital, Cambridge. Instead of Richardson's bellows, I now employ a Fletcher's foot-bellows. This apparatus enables the operator to use both hands, whilst his foot works the bellows and controls the delivery of air. It thus becomes possible (provided a steam spray-producer is available) to dress an empyema without a trained assistant. The pressure which can be obtained from Fletcher's bellows is in excess of surgical requirements. But it is easy to obviate this difficulty with the help of a screw-clamp placed on the tubing between the chest and the air-filter. By this means the diameter of the tube may be varied so as to regulate to any extent the quantity of air delivered into the chest. I may add that perflation can be applied whether two openings exist into the chest or only one. A free incision (if possible in the posterior or lateral aspect of the chest) will usually suffice. I believe, however, that an advantage is often gained by making in front a counter-opening, which need not be so large as the posterior wound.

I remain, Sirs, yours truly,

Curzon-street, Mayfair, March 11th, 1887. WM. EWART.

P.S.—I avail myself of this opportunity of setting at rest the doubts expressed by some Fellows of the Royal Medical and Chirurgical Society as to the nature of the specimen exhibited as gangrenous lung tissue on the 8th inst. Dr. Délepine's microscopical examination confirms the conclusion drawn from naked-eye appearances that this was a portion of the lung, and the surmise that embolism was the cause of the gangrene.

CANCER OF THE BODY OF THE UTERUS.

To the Editors of THE LANCET.

SIRS,—I shall be glad to be allowed to correct an error in my letter on the above subject which appeared on March 5th. In referring to Case 22, described in Dr. John Williams's Harveian lectures, I stated that, according to my recollection, the disease had commenced in one of the fibroids, and had spread thence to the uterine wall. I have since had an opportunity of making a more complete examination of the specimen, and from the appearances presented by deeper sections, it is clear that the uterine wall, and probably the mucous membrane, was the site of the primary disease.

With regard to the question on which our opinions differed—viz., the frequency with which cancer affects the body of the uterus,—I find that at the Middlesex Hospital we have had only two such cases in the post-mortem room during the last eleven years. This may possibly be due, as Dr. Williams suggests to me, partly to the fact that such, not being recognised outside as cases of malignant disease, are not sent into our cancer wards, and that, when diagnosed, they are considered too "good" to be given up to a hospital. On the other hand, Dr. Williams's experience of such cases may be exceptionally large, as they would certainly present difficulties, and on that account would be likely to be submitted for the opinion of a consultant.

I am, Sirs, yours truly,

J. KINGSTON FOWLER, M.D.

Clarges-street, W., March 15th, 1887.

IODOFORM AS AN ANTISEPTIC.

To the Editors of THE LANCET.

SIRS,—The doubts cast upon the antiseptic power of iodoform are surprising, and must surely be contradicted by the experience of every practical surgeon. It really seems absurd to quote instances to prove the superiority of iodoform (through the penetrating character of its volatile particles) to other antiseptics, it is a matter of such daily experience. I will just mention one case, however, if you will permit me. When surgeon on board the Orient steamship *Lusitania* (temporarily an armed cruiser), I had an invalided engineer from the Nile boat corps handed over to my charge at Alexandria, with the worst "poisoned hand" I ever saw. It was riddled with abscesses back and front; it had been deeply incised in several places, the pus burrowing up the tendon sheaths above the wrist; and it was horridly offensive. It had been treated with carbolic baths continuously. I kept it four hours in a carbolic bath, and then syringed it well and dressed it with carbolic solution (1 in 40). At night it was as offensive as ever. I then wrapped the fingers and hand with strips of lint on which was spread a weak iodoform ointment (twenty grains to an ounce of zinc ointment). The hand in the morning was *perfectly sweet*. The dressing was simply renewed, first twice a day, then daily. The healing process commenced immediately, discharge rapidly diminished, and there was never the slightest odour from the hand after the first dressing. The man's temperature became normal (it had been 101°), appetite good, and he went ashore with his hand healed. I would only say, in conclusion, that, as my supply of this invaluable drug was very small, I learned how exceedingly small an amount was necessary, and that the waste to which I had been accustomed in London hospitals was simply sinful. To powder a wound over or stuff a sinus with pure iodoform is utterly unnecessary. I am convinced that drachms are used when grains would suffice, especially in hospital practice.—I am, Sirs, yours obediently,

March, 1887. J. P. GLOVER, M.D. Lond.

INEQUALITY OF THE PUPILS IN TUBERCULAR MENINGITIS.

To the Editors of THE LANCET.

SIRS,—In your issue of the 12th ult. I notice a letter from my friend Dr. Alderson. The subject—"The Inequality of the Pupils in Tubercular Meningitis"—is one that occupied my attention considerably some time ago, when I had the opportunity of examining the eyes of several children suffering from this disease. Granting that inequality of pupils is liable to exist in these cases, I own that I am somewhat surprised that Dr. Alderson—whom I know to be a very careful observer—should attach such enormous weight to this single symptom. Tubercular meningitis is simply acute tuberculosis affecting (principally) the pia mater at the base of the brain, with serous exudation into the lateral ventricles; and it seems to me that it is a mere accident whether pressure is greater on one side than on the other, or whether it is equal on both sides. To reject the diagnosis of tubercular meningitis because pressure is symmetrical would therefore appear to be going rather too far. I can give Dr. Alderson details of an undoubted case of tubercular meningitis which terminated fatally, in which there was wide dilatation of *both* pupils, with immobility under the strongest light, and also double optic neuritis. Personally, I should attach greater importance to the fact of dilatation being present (whether equal or unequal), and especially to the insensibility (partial or complete) of the iris under the stimulus of light. Dr. Alderson does not tell us whether he examined the fundi of any of his cases, and whether he found any change therein indicating a descending perineuritis. It would be interesting to hear the opinions of others on these diagnostic points, which is my apology for sending this letter to you instead of direct to my friend.—I am, Sirs, your obedient servant,

A. ST. CLAIR BUXTON, F.R.C.S.,
Assistant-Surgeon to the Western Ophthalmic
Orchard-street, W., March, 1887. Hospital.

ANATOMY AND PHYSIOLOGY IN CHARACTER.

To the Editors of THE LANCET.

SIRS,—Accept my thanks for your careful analysis of my recent work. One point your reviewer has misapprehended. I expressly state that the rule for shrewish men and women to have clear, pink skins has many exceptions. My book is so compressed that misapprehensions are perhaps not unnatural. The *Saturday Review*, for instance, declares that many non-shrewish persons have round backs. I myself said this as clearly as I knew how. I am sure you will permit me to advert to a matter of fact. In matters of opinion I am well aware that I run counter to so much popular belief and feeling that the wide and generous reception already given to my book excites my genuine surprise. I am, Sirs, yours obediently,

Birmingham, March 14th, 1887. FURNEAUX JORDAN.

VEXATIOUS ACTIONS AGAINST MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—The following short statement of facts may perhaps serve as a warning to some of my fellow-practitioners, if there are still any who need it, and will in any case, I trust, help to strengthen the hands of those who are striving for the reform of a most unjust law.

One fine day in August, when most of my professional neighbours were enjoying their holidays, I was served with a magistrate's order, directing me to visit and report upon the state of mind of a supposed lunatic. I did as I was ordered, found that the individual was undoubtedly insane, and certified to that effect. Next day she was brought before the magistrate, who satisfied himself by personal examination of the correctness of my opinion, and signed an order for her removal to a public asylum, where she was detained for two months. Some months afterwards I was served with notice of an action, then with a long list of "interrogations"; then one of the plaintiff's witnesses was examined by commission; and at last, after various other distractions and annoyances, was put to the inconvenience of a trial extending over four days, at the conclusion of which the jury without hesitation gave a verdict in my favour, the judge awarded me "costs," and I was overwhelmed with friendly congratulations. Again an interval of a few months, and I receive a bill for £240 8*s.* 1*d.* The plaintiff professes herself a pauper. I am told that it is open to me to institute proceedings in bankruptcy against her; but I have had enough of law for the present, and even the lawyers do not hold out much prospect of a successful result. There is nothing to be done but to pay the demand as best I can out of hardly-earned savings, and with the hope that the time is not far distant when such flagrant injustice will be a thing of the past.

I am, Sirs, yours truly,

March, 1887. A VICTIM OF THE LAW.

THE ACCOMMODATION FOR PRISONERS AWAITING TRIAL.

To the Editors of THE LANCET.

SIRS,—I am directed by the Mayor of Marlborough to write to you on the subject of your remarks on the Report of the Committee of Inquiry into the Accommodation for Prisoners awaiting Trial, in your issue of the 12th inst. So far as Marlborough is concerned, there seems to be no doubt that the Committee's Report is founded upon information furnished by the Governor of Devizes Prison of the state of things antecedent to 1885, and does not take cognisance of alterations and improvements effected by the Town Council since that date. As regards the sanitary arrangements, there has been a complete change, a proper watercloset being now provided in a separate room, and the repulsive practice as quoted by you from the report done away with. The prisoners' room has also been enlarged, and improvements effected in the lighting and warming of it. I may add that the accommodation now provided has been favourably reported on by one of Her Majesty's inspectors, and can compare favourably with that of any other town in the county of Wilts. I trust that, for the credit's sake of our town, you will give prominence to this letter.

I am, Sirs, your obedient servant,

E. LLEWELLYN GWILLIM,
Marlborough, Wilts, March 16th, 1887. Town Clerk.

"PARTIAL ENTEROCELE (IRREDUCIBLE) ASSOCIATED WITH HYDROCELE OF THE HERNIAL SAC."

To the Editors of THE LANCET.

SIRS,—Since the publication of my case of partial enterocele, Mr. Day, jun., of Harlow, who was present at the operation, has sent me a few facts of importance which add to its interest: "She had not been wearing a truss previously to the operation, and her local inflammatory symptoms before she was sent up to town had been *nil*. Since the operation her condition has been excellent, and she has had no further trouble with regard to the rupture."

I am, Sirs, yours sincerely,

March, 1887. WILLIAM HY. BATTLE.

LIVERPOOL.

(*From our own Correspondent.*)

OUR LOCAL ASSIZE COURTS AND THE ACCOMMODATION FOR PRISONERS.

THE committee appointed by the Government to inquire into the accommodation for prisoners awaiting trial were satisfied with the arrangements made in our Assize Court. The steps from the prisoner's dock lead to a large waiting-room, closely adjoining which are a sufficient number of separate cells, both for male and female prisoners, with every proper sanitary arrangement. These courts were erected in 1854, and it would appear that so far as the prisoners are concerned nothing is required. But, as remarked in previous letters, the accommodation for witnesses is most inadequate, and, as Liverpool is probably not singular in this respect, it is to be hoped that the Government may, now that the prisoners have been considered, inquire into the arrangements made for other persons concerned—the witnesses, the jurors, and all whom justice requires to be present.

DEATH OF DR. MATTHEW HILL OF BOOTLE.

Dr. Matthew Hill of Bootle died last week. The deceased, who had practised in Bootle for many years past, was well known, not only in his professional capacity, but also as having taken an active part in municipal affairs, and recently filled the office of Mayor of Bootle. His funeral, which took place at Anfield Cemetery on the 12th inst., was a military one, the deceased having been surgeon-major to the 1st Liverpool Rifle Volunteers, and it was attended by a very large number of medical and lay friends.

THE OLDHAM POISONING CASE.

The last penalty of the law was inflicted upon Elizabeth Berry, on the 14th inst., within the walls of Her Majesty's prison, Walton-on-the-hill, which is virtually the borough gaol. Formerly all prisoners sentenced to death at the Liverpool assizes were hanged within the county gaol at Kirkdale, but recent changes have made it necessary to alter this arrangement, and in future male prisoners will be executed at Kirkdale, females at Walton. This makes the fourth female executed in this county for murder by poisoning within the last three years. It being the first execution at this gaol, great care was taken to ensure the prompt and humane carrying out of the sentence. The wretched woman was spared the task of ascending steps to the scaffold, it being on a level with the prison yard, and death was almost instantaneous.

THE HOSPITAL FOR WOMEN.

A special general meeting of the governors of this hospital was held on the 11th inst., when the amended laws were submitted for approval. Among them one of the most important was that the election of medical officers shall in future be by the committee, instead of by the governors. Another was as follows: "No operation of dangerous character or which involves abdominal section shall be performed, except in cases of extreme emergency, without previously summoning a consultation of consulting and acting surgeons for in-patients, and no such operation except as aforesaid shall be performed in the hospital without a consultation between the operator and one of the before-mentioned officers. No person who is not officially connected with the hospital shall be called in consultation without the acquiescence of the medical staff. No medical gentleman unconnected with the hospital staff shall be permitted to assist at any operation without the acquiescence of the medical staff, unless in cases of emergency; and such cases shall be reported to the committee, with the names of the gentlemen assisting thereat." The committee have thus acted upon the recommendation of the Liverpool Medical Institution Committee, appointed as a committee of inquiry into the 1885 cases of abdominal section. The proposed amendments were unanimously adopted.

THE PIANO-ORGAN NUISANCE.

An Italian organ-grinder was recently summoned before the county magistrates for persisting in playing a piano-organ after being requested to go. The offence was committed close to the residence of an invalid lady, who had suffered severely in consequence; and her son was compelled to prosecute, not to punish so much as to prevent the nuisance from being repeated. By recent local Acts, any residents in the borough and suburbs may request musicians and singers to remove "out of hearing," and any refusing to do so are liable to be fined to the extent of forty shillings. The wisdom of this wholesome regulation will be appreciated by medical men, who know well what suffering is inflicted upon themselves and others by this intolerable nuisance. In this case the defendant was made to pay the costs, and warned not to repeat the offence.

THE NETHERFIELD ROAD HOSPITAL.

At the last meeting of the City Council the appointment of Dr. Robert Robertson as visiting physician to the City Hospital, Netherfield-road, was confirmed.

Liverpool, March 15.

PRISON SURGEONCIES IN SPAIN.—The profession is so overcrowded and the desire to obtain some public appointment so universal in Spain, that a few vacancies in the medical officerships of the penal establishments having recently been notified, the applications for the appointments poured in on the astonished officials to the number of 3200!

EDINBURGH.

(From our own Correspondent.)

UNIVERSITY OF EDINBURGH.

A NUMBER of honorary degrees about to be conferred by the University at the annual graduation ceremonial in April have been announced. Amongst those upon whom the honorary degree of D.D. is to be conferred are Professor Duff, of the United Presbyterian College, and the Rev. Thomas C. Edwards, M.A., Principal of the University of Wales. The degree of LL.D. is to be conferred, amongst many others, upon Professor Dittmar, of Anderson's College, Glasgow; Professor Edward Dowden, of Trinity College, Dublin; Professor Momerie, of King's College, London; and Sir Bhagvat Sinh, Thakoor of Gondal, an Indian prince, who has attended lectures in the Faculty of Medicine during the last two years. The same degree has been offered to Dr. Gunning, late of Rio Janiero, Mons. F. Xavier Michel, and Mr. C. J. Lyall.

A YEAR'S DISPENSARY WORK.

The annual report of the New Town Dispensary, an historical medical institution in Edinburgh, and a very popular charitable agency for the relief of the sick poor, shows that upwards of 9500 patients have been treated under the auspices of the dispensary in the last twelve months. Over 1000 vaccinations have been successfully performed during the same period, and 2300 patients visited in their own homes by the medical staff. The balance-sheet shows a similarly satisfactory condition in other respects.

Edinburgh, March 16th.

ABERDEEN.

(From our own Correspondent.)

ABERDEEN GENERAL DISPENSARY.

THE annual meeting of the managers of the Aberdeen General Dispensary was held on Friday, the 4th inst., when the annual report was read and approved. It showed that relief had been afforded to 8290 cases during the past year, and that 6372 visits had been paid to 2549 patients at their homes; there were 220 obstetric cases, 697 children were vaccinated, and 770 dental operations had been performed. There were also 219 cases in the ear and throat department, which is under the charge of Dr. McKenzie Booth and Dr. Edmond. Another member of the staff has arranged to attend twice a week for the treatment of diseases of women. The finances of the dispensary show a pleasing exception to those of our other charitable institutions; the income exceeds the expenditure by £378 19*s*. The members of the staff and other officials were re-elected. The Committee of Management, at the request of the Medical Faculty of the University, had under consideration the appointment of a public vaccinator in connexion with the dispensary, whose position and qualifications to grant certificates to the students would be recognised by the Local Government Board. The committee approved of such an appointment if the necessary funds could be provided without entrenching on those of the institution. At present the members of the staff do the work in rotation, each one attending once a week for two months; but they are not qualified to grant certificates to students.

THE ROYAL INFIRMARY.

A quarterly court of the managers of the Royal Infirmary was held yesterday. Dr. Angus Fraser was promoted to the position of second physician, rendered vacant by the death of Dr. Beveridge, and Dr. Blaikie Smith, assistant-physician, was appointed third physician. For the office of assistant physician Dr. Rodger was the only candidate, and he was elected unanimously. By this appointment the office of pathologist to the infirmary, which Dr. Rodger held for seventeen years, becomes vacant, and it is generally expected that Professor Hamilton will be elected to fill it. The annual financial account, as presented to the meeting, discloses anything but a satisfactory state of affairs. The expenditure still largely exceeds the income, and the same has to be said of the convalescent hospital. The "Jubilee Fund" for the extension of the infirmary now amounts to

£11,531 14s., and the committee in charge of it are hopeful that the necessary sum, £30,000, will be subscribed before the required time. They are about to make a personal appeal to every elector in the city and county of Aberdeen, and in the county of Kincardine.

ABERDEEN UNIVERSITY.

The winter session closes on the 25th of this month and the professional examinations begin on the Monday following. Professor Cash has appointed Dr. John Gordon to be assistant in materia medica.

THE CITY HOSPITAL.

The Epidemic, or City Hospital, as it is now called, is in disgrace. Some time ago grave charges were made by the Trades Council of the city as to the character of the nurses, the want of cleanliness in the beds and persons of the patients, and the want of proper discipline in the hospital generally. These charges were practically admitted by the Public Health Committee, and were the means of bringing about a marked improvement in the general management of the hospital: the wards were made more comfortable, and it was said a staff of well-trained nurses had been engaged. But a sad accident, which took place lately, shows that things are far from what they should be. Of the few cases of typhus fever, three were sent to the Children's Hospital as cases of typhoid fever, and were admitted as such, and unfortunately before the true nature of the fever was detected a probationer nurse caught the infection. She was removed to the City Hospital, and there, it is said, she was attended by a nurse who also had to attend to some case of measles in an adjoining but entirely separate ward. On one occasion, while the nurse was absent, her typhus fever patient got out of bed in a state of delirium, and in her wandering through the ward set fire to the bedclothes which she had wrapped round her. She was found lying on the floor terribly burnt, and in a few days she succumbed to the combined effects of the fever and burning.

HEALTH OF THE CITY.

The death-rate for some time has been unusually high. Scarlet fever, measles, and whooping-cough are all epidemic; there have also been a great many cases of typhoid fever and a few of typhus. The cases of typhus were on the whole mild, and it is satisfactory to find that this disease is not likely to become epidemic.

March 15th.

DUBLIN.

(*From our own Correspondent.*)

ROYAL COLLEGE OF SURGEONS IN IRELAND.

MEETINGS have been held between delegates from the College of Physicians and the Royal College of Surgeons in Ireland in reference to the proposal to empower the London Colleges to confer the M.D. degree. They have recommended the Dublin Colleges to lodge a *caveat* against the proposal unless similar privileges be granted to them. From a correspondence with the Edinburgh and Glasgow medical and surgical corporations, it appears that in Scotland there is an actual desire to get powers similar to those asked for by the London corporations. In Dublin, however, there is no desire to obtain such a privilege unless it be given to the London bodies. A meeting of the Council of the College of Surgeons will be held on Thursday, the 17th inst., when a motion by Sir Charles Cameron will be under consideration. The motion is to the effect that, should counsel's opinion be favourable as to the legality of the College combining with the Apothecaries' Hall, a conference with that body be invited with the object of preparing a scheme of examination to be held by that corporation and the College of Surgeons conjointly.—A petition in reference to the grievances under which army medical officers at present labour has been sent to the House of Commons by the Council of the College.

CITY OF DUBLIN HOSPITAL.

Mr. H. Gray Croly, senior surgeon to this institution, some time since suggested that "observation wards" would be found convenient and useful; and the recommendation has now been carried into effect. This desirable result is due to Mr. Marcus Tertius Moses, one of the governors, who has built at his own expense substantial male and female observation wards at the rear of the hospital. At a meeting of the Board of Governors last week a vote of thanks was accorded to Mr. Moses for his liberality.

DEATH OF DR. WILLIAM BEAMISH.

This gentleman, who died at his residence, near Dublin, on the 7th inst., practised for many years in Cork, where he was well known and justly esteemed for many sterling qualities. He held the post of senior physician to the Cork Fever Hospital for many years, and also was surgeon to the Cork Male and Female Prisons. About four years since he retired from practice and removed to Dublin. The deceased was the author of a paper on Fever, and a communication "On the Pathology, Prevention, and Treatment of Asiatic Cholera, with cases in the Epidemics of 1849, 1853, and 1886."

ZYMOTIC DISEASES IN DUBLIN DURING FEBRUARY.

As compared with the previous month there was a large decrease in the deaths from scarlatina. Eight deaths were recorded from enteric fever, as compared with four the month preceding. On the whole there was a slight decline in the zymotic death-rate as contrasted with January, and the rate was much below the average of the month for the previous ten years.

MONKSTOWN HOSPITAL.

The report for the past year is a satisfactory one, the cases treated being in excess of that of 1886, and the cost of management somewhat less. On one item, that of pay patients, there has been a considerable increase. This arises from the payments made by the Admiralty, the hospital being the naval sick quarters for Her Majesty's ships on the Kingstown station.

ADELAIDE HOSPITAL.

The annual meeting of the friends of this institution was held on Tuesday, the 15th inst., and the report shows the hospital to be in a very flourishing condition, and to be accomplishing a good work in Dublin. There were 482 cases in the surgical wards during the year, necessitating 213 operations, the deaths among these cases amounting only to a little over 2 per cent. The committee refer to the great prevalence of phthisis among the poorer classes in Dublin, and state that year by year the need of a special institution for cases of this disease becomes more urgent.

Dublin, March 15th.

BELFAST.

(*From our own Correspondent.*)

THE MEDICAL STUDENTS' CONVERSAZIONE.

THE first conversazione in connexion with the Medical Students' Association was held in Queen's College, on March 10th. This society was established for social intercourse, the discussion of subjects peculiar to the medical profession, and for bringing before the students matters affecting their position, so as to give united expression of opinion. All the rooms of the College were available for the evening, the entrance and examination halls being very profusely decorated. There was a very large assemblage of students and their lady and gentlemen friends; and as the professors and graduates appeared in their academic costume the scene was very picturesque. Among those present were the Mayor of Belfast, the General in command of the district, and the President of Queen's College. The tea-tables were arranged round the examination hall, and were presided at by the wives or lady friends of the professors and members of the hospital staffs at which the students attend. This hall was decorated and illuminated by the electric light. The band of the Queen's Royal West Surrey Regiment was stationed in the hall, where they performed during the evening. In the chemistry lecture-room Professor Letts was very successful in a series of popular chemical experiments, and in the physics lecture-room Dr. Everett gave a number of experiments on vibration. Professor Fitzgerald showed several electrical experiments, and a number of microscopes were exhibited in the council chamber. A number of amateurs executed admirably a variety of musical items, while a very successful series of *tableaux vivants* were given by the students in the en-

trance hall. A committee of the students (of which Mr. Weatherup, B.A., and Mr. Haslett were secretaries) had charge of the arrangements, and to them the great success of the entertainment is due. It is hoped the conversazione will become an annual one.

ULSTER MEDICAL SOCIETY.

At a meeting of this Society held on March 9th, Dr. Esler showed an ovarian cyst which he had successfully removed, and Dr. Byers introduced a discussion on the treatment of abortion. Dr. Dempsey read a paper on the same subject, and Professor Dill took part in the subsequent discussion.

Belfast, March 16th.

PARIS.

(From our own Correspondent.)

TYPHOID FEVER.

THE frequency of typhoid has been steadily on the increase for the last six weeks, and at the present time there is an unusually high mortality. In my letter of Feb. 5th I had anticipated this possibility, but, strangely enough, the number of deaths registered during the following week was exceptionally small, and it was thought by many that the danger had been over-estimated. Since then, however, the death-rate has increased week by week, and the last two returns have been forty-one and forty respectively. Comparing these numbers with the statistics for last year, which gave 1009 fatal cases for the twelve months, it will be seen that the mortality during the past fortnight has been more than twice the average. The water-supply is now said to be derived from pure sources, but if this is true the temporary sojourn of the Seine water in the mains has produced a contamination of the water-pipes that has not yet disappeared. I have not seen a glass of water in Paris for the last two months that has not been visibly full of organic impurities and unpleasantly suggestive of the infinitesimally small.

PASTEURIANA.

It has been tacitly agreed at the Academy of Medicine that the discussion upon rabies be suspended until M. Pasteur's return, but in the meanwhile advocates and opponents of the method remain as uncompromisingly hostile as ever. Whilst the *Annales de l'Institut Pasteur* continues to herald the enthusiasm of its directors, its adversaries of the medical and political press throw in a discordant note from time to time under a new stereotyped heading, which recurs with lugubrious monotony—the "Nécrologie Pasteur." The *Journal de Médecine de Paris* has discovered two new cases in Russia. The first of these is quoted from the Warsaw newspapers, and relates to the wife of a farmer named Ozimski, who was bitten nine months previously, and underwent the treatment by the first method in Paris. The second was a peasant named Wassilieff, inoculated on the third day after the bite at St. Petersburg, who died within a few days of the completion of the treatment. It has also been shown by the inoculation test that the death of Bergé, at Bordeaux, was due to rabies, and the fact is not contested. To these the *Journal de Médecine* adds three new victims for France—the child Santés of Algiers; an Italian, Rovati of Modena; and a man called Alphand, said to have died of the paralytic form of the disease. In the *Annales* it is stated that there is no evidence of rabies in this last instance, and the death is attributed to another cause. *A propos* of rabies, it is somewhat surprising that those learned in "suggestion" should have hitherto neglected so promising a field for hypothesis and experiment. If, as the Paris Biological Society allows, the gonococcus can be annihilated with the greatest ease by neurypnologic command, why not also the virus of rabies? Does not M. Pasteur cure his patients by a kind of indirect auto-suggestion, or, to use the expression of forty years ago, by "credencive induction"? And, on the other hand, is not M. Peter morally responsible for the fatal results by a similar but baneful *action à distance!* Grave and important questions for students in hypnotism, and which will be none the less novel to them, if not exactly new.

NARCEINE.

M. Laborde has been studying for the last few months the action of a new narceine. The preparation of this substance is extremely difficult, and that found in the trade contains a large proportion of other alkaloids of opium. M. Duquesnel has succeeded in obtaining narceine containing only a small quantity of laudanine and codeine, and from numerous trials upon animals and upon man, M. Laborde states that this product has a happy sedative effect upon the nervous centres, and is an admirable medicine for whooping-cough and bronchitis, an opinion which is shared by M. Brown-Séquard.

A "SPECIFIC" FOR DIABETES.

At a recent meeting of the Société de Thérapeutique, M. Martineau stated that he had been treating diabetes for the last ten years, with almost invariable success, by a method which he had borrowed from a practitioner now dead. He had hitherto made no communication upon the subject, because he had wished to be perfectly certain that his conclusions were not premature. The treatment consists in the administration of a solution of carbonate of lithia and arseniate of soda in aerated water, to the exclusion of all other drinks. Besides taking this with his meals, the patient uses the same as a beverage when thirsty at other times. M. Martineau affirms that this regimen has cured sixty-seven of seventy diabetic patients he has had occasion to treat.

MEMORIAL TO THE FRENCH ARMY MEDICAL STAFF.

A monument has been erected in the Salle d'Honneur of the Val-de-Grâce, the military hospital and school of medicine, to the memory of those members of the medical staff of the French army who lost their lives in the performance of their duty during recent campaigns. They number one hundred and twenty-three, and of these eleven were killed in action by the enemy's fire. The others fell victims to malaria, typhoid, cholera, and other diseases, and although, from a military point of view, their death was a less glorious one, still their devotion to the public service is honourably recognised.

THE FACULTY OF MEDICINE.

M. Brouardel has been appointed Dean of the Faculty for a period of three years. For the post of perpetual secretary of the Academy of Medicine the candidates are M. Jules Bergeron and Professor Jaccoud.

Paris, March 16th.

THE SERVICES.

Deputy Surgeon-General Sir J. Hanbury, K.C.B., Principal Medical Officer of the Home Military District, has been ordered on foreign service, and will embark at once for the Mediterranean.

Deputy Surgeon-General A. F. Bradshaw has been appointed Principal Medical Officer on the Staff of the Northern District at York; Surgeons J. G. Black, M.D., J. Kearney, M.D., C. A. Renny, M.B., and E. C. G. Dell have arrived in India for duty in the Bengal Presidency; Surgeon B. O. W. Norfor, M.B., has joined at Canterbury for duty on his return from Egypt.

WAR OFFICE.—Royal Malta Fencible Artillery: Surgeon Lorenzo Manché, M.D., to be Surgeon-Major.

ADMIRALTY.—Staff Surgeon Thomas Bolster has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet.

The following appointments have been made:—Staff Surgeons E. R. H. Pollard and Robert W. Williams, to the *President*, additional; Surgeon Edward G. Swan, to the *Imogene;* Surgeon George A. Draper, to the *Duncan;* Surgeon Alexander L. Christie, to the *Devastation;* and Mr. John Elliott to be Surgeon and Agent at Bantham.

ARTILLERY VOLUNTEERS.—1st Aberdeenshire: James Aymer, M.B., to be Acting Surgeon.

RIFLE VOLUNTEERS.—2nd Cambridgeshire (Cambridgeshire University): Surgeon Bushell Anningson is granted the honorary rank of Surgeon-Major.—1st Elgin: George Leslie Hodgson Milne, M.B., to be Acting Surgeon.—1st Volunteer Battalion, the Buffs (East Kent Regiment): Honorary Assistant-Surgeon W. Beet, M.D., resigns his commission.—2nd Volunteer Battalion, the Loyal North Lancashire Regiment: John Edwin Scowcroft, M.D., to be Acting Surgeon.—West Suffolk: Acting Surgeon H. C. C. Shaw resigns his appointment.

MEDICAL NOTES IN PARLIAMENT.

The Lunacy Acts Amendment Bill.

IN the House of Lords, on the 10th inst., the Lord Chancellor, in moving that the report of the amendments to this Bill made in committee be agreed to, said that he proposed to amend Subsection 11 by inserting a provision into it to the effect that where a person has been sent to an asylum or a private house, and has not been visited by a County Court judge or a magistrate having jurisdiction at the place where he is confined within seven days after the commencement of such confinement, the person confined shall have a right to be seen by any county court judge or any magistrate having any jurisdiction whom he shall designate.—The Earl of Selborne objected to the proposed alteration on the ground that it did not carry his view into effect.—Lord Herschell also objected to the amendment on a similar ground.—After some conversation, Subsection 11 was struck out, and the further consideration of the proposed amendment was postponed to the next stage of the Bill.—The Earl of Selborne said that on the third reading he would move as an amendment that the magistrate who made the order should be the person who visited the lunatic.—Several other amendments proposed by the Lord Chancellor were agreed to.

Accommodation for Prisoners awaiting Trial.

On the 15th inst., the Marquis of Ripon asked whether Her Majesty's Government intended to lay before Parliament the report of the Committee appointed by the Home Department to inquire into the state of the lock-ups and other places in which prisoners awaited trial in various parts of the country.—Earl Beauchamp stated that the paper referred to had been presented to Parliament, and was circulated on the 11th inst. The question was a grave one, and as soon as the report reached the Home Secretary he took it into his consideration, and addressed a circular to the county and borough authorities. But those matters did not rest entirely with those authorities, as the sanction of the Treasury might be necessary before any expenditure was incurred.

In the House of Commons on the same day, in reply to Lord Elcho, who asked the Secretary of State for the Home Department whether, in all cases when in consequence of the report of the committee on the accommodation of untried prisoners it was proposed to rebuild, extend, or otherwise alter the proposed accommodation, Her Majesty's Government would be prepared to examine the plans before the proposed works were carried out, in order to see that the intended alterations complied with the recommendation of the committee, and were in every respect suited to the requirements of the case.—Mr. Matthews stated that in the circular which he had lately issued he had invited the local authorities to communicate with him what works they propose to undertake. Such communications he should refer to the Surveyor-General of Prisons, and, acting on his advice, inform the local authorities of his own opinion on their proposals.

Smoke Abatement Bill.

On the 14th inst., Lord Stratheden and Campbell presented a Bill dealing with the abatement of smoke in the metropolis. The Bill was read a first time.

The Pharmacy Act Amendment Bill.

On Thursday night, the 17th inst., the Earl of Milltown moved the second reading of a Bill to amend "The Pharmacy Act, 1852," and "The Pharmacy Act, 1868." He said: The Bill is framed with the view of enabling the Pharmaceutical Society of Great Britain to make adequate regulations for the education and curriculum of those persons included amongst its members. The Bill is a short one, but the matter is important when it is considered that these persons alone have the power to dispense medicines and to sell poisons. The Pharmaceutical Society was founded in 1841, and received its charter in 1843. The Pharmacy Act, 1852, confirmed that charter, and made it for the first time penal for any unauthorised person to assume the title of pharmaceutical chemist. The Act of 1868 went a little further, and made it unlawful for anyone not duly qualified to sell or dispense poisons, or to assume the title of chemist and druggist. That Bill for the first time introduced the name druggist into an Act, and made it illegal for any person not duly qualified to sell poisons. The Society consists of members, associates, and registered apprentices, each having a separate qualification and having to undergo a separate education. Clause 6 of the Act 1868 apparently makes it imperative on the examiners to pass any person who presents himself for examination; and that being so, the Council of the Pharmaceutical Society have found themselves almost powerless in requiring such qualification in those who pass the qualifying examination as they deem absolutely essential for the safety of the public; and, in point of fact, persons who answer the questions may become qualified, although they have undergone no technical training at all. The Society has framed bye-laws for remedying this defect, and establishing what they consider a sufficient curriculum of study; but the Privy Council, to whom all bye-laws have to be submitted, found themselves unable to confirm them, as they were of opinion that the statutes of the Society did not empower them to frame any such bye-laws. This Bill has been introduced to remedy that defect. This Bill has the unanimous consent of the Pharmaceutical Society, and I believe, subject to a verbal amendment which I shall hereafter make, that it has the approval of the Lord Privy Seal. The second clause of the Bill gives power to the Council of the Pharmaceutical Society, in cases where persons have acquired in their judgment sufficient technical knowledge in England, in any other part of the United Kingdom, and in the colonies, to dispense with the three years' curriculum, but not with the qualifying examination. The Act is not to apply to Ireland. The Bill was then read a second time.

Lunacy.

The Lord Chancellor moved the third reading of the Lunacy Act Amendment Bill, and this having been agreed to, the Earl of Selborne, on the motion "That the Bill do now pass," moved an amendment providing that where a person was under care by order of a magistrate who had not thought it necessary to see the alleged lunatic, if subsequent examination became necessary, such magistrate should not be debarred from making that examination on the ground that he had signed the committal order.—The Lord Chancellor said if the amendment was inserted it must be on the authority of their Lordships' House, as he could not accept the responsibility of adopting a proposal which would practically allow a magistrate to sit in judgment on his own Act.

The House divided, when there were—for the amendment, 22; against, 46; majority against, 18. The Bill was then passed.

Brigade Surgeons in India.

In the House of Commons on the 11th inst., Colonel Hughes-Hallett asked the Under-Secretary of State for India whether he would take into consideration the case of brigade surgeons on the medical staff in India, having regard to the severe examinations they have to pass for their promotion, with a view to placing them, as was contemplated by the Royal Warrant of December 2nd, 1879, on the same footing as brigade surgeons in all other parts of Her Majesty's dominions as regards pay, position, and pension, instead of allowing them to remain as at present in India on the same pay after twenty-five and thirty years' service as surgeons-major, and subject at times to routine duties under medical officers of the latter rank who may be their juniors.—Sir J. Gorst replied that when the Royal Warrant created the rank of brigade surgeon in 1879 the Secretary of State for India declined to allow any increased expenditure to be cast on the revenues of India by reason of that warrant, and that the present Secretary of State adheres to that determination.

The Sewage Works at Barking.

In answer to Mr. Salt, Sir J. M'Garel Hogg stated that a tender amounting to £406,000 for the sewage works about to be executed at Barking was accepted by the Board in pursuance of the powers of the 135th section of the Metropolis Management Act, 1875, and of other provisions conferring jurisdiction upon the Board with reference to the disposal of sewage and refuse from the sewers of the metropolis and for the purpose of preventing the discharge of sewage sludge into the Thames. The £406,000 applies to the works at Barking only and is not final. A further sum will probably have to be expended in the completion of the works at both outfalls and the purchase of sludge ships.

The Relative Rank of Army Medical Officers.

On the 14th inst., on the motion to go into Committee of Supply on the Army Estimates, Dr. Clark desired to know

from the Government why a change of a prejudical character had been made in the relative rank of the medical officers in the service.—Dr. Tanner also pressed upon the attention of the Government the necessity of a reform in the Army Medical Department.

Staines Sewage.

On the 15th inst., in reply to Mr. Dixon-Hartland, Mr. Ritchie stated that the sums to be paid to the Thames Conservators by the metropolitan water companies were fixed by statute, and it was impossible for the Local Government Board to oblige the companies to devote some part of their profits to help to defray the cost of diverting the sewage from the river. The Staines Local Board had long evaded their statutory duties, with the result that the River Thames had been polluted with the sewage of the district. It devolved upon the Staines Local Board, as upon every other sanitary authority, to defray the cost of any sewage works required.

Vaccination in India.

In reply to Mr. Hunter, Sir J. Gorst stated that in British India vaccination is compulsory in certain selected areas only. No penalty is imposed for simple refusal or neglect to vaccinate a child. For mere disobedience to a magistrate's order to vaccinate the maximum penalty is 50 rupees. Contumacious and persistent disobedience may in certain cases entail a fine of 1000 rupees and six months' imprisonment.

Local Government Board Loans.

In reply to Mr. Leighton, Mr. Ritchie stated that the total amount of the loans sanctioned by the Local Government Board to be raised by local authorities during the year ended December 31st, 1886, was £2,827,867, being a decrease of £459,054 as compared with the total amount so sanctioned during the preceding year. The Board had no information as to the amount of the local loans which were contracted during the year without the sanction of any central department, but it might be stated that the total amount of the specific sums which by local Acts passed during the year were authorised to be raised by sanitary authorities and municipal corporations without the sanction of any central department was £1,496,287.

The Boarding-out of Pauper Children.

In reply to Mr. Norris, Mr. Ritchie stated that the initiative as regards the adoption of the boarding-out system rests with the boards of guardians, and not with the Local Government Board. The Board are always ready to entertain applications from guardians for the adoption of the system where the circumstances of the union appear to be such as to render that system appropriate, and provision has been made for complying with the requirements prescribed by the order of the Board.—Mr. Mundella asked whether the Local Government Board would undertake to extend the system of boarding out.—Mr. Ritchie said that the Local Government Board was always ready to consider any application for the extension of the system from boards of guardians.—Mr. Mundella asked whether the right hon. gentleman would promise to send circulars on the subject to the boards of guardians.—Mr. Ritchie replied that the Local Government Board had already caused the system to be thoroughly well known, but if necessary they would take further steps.

House-boats on the Thames.

On Thursday evening Colonel Dawnay asked the President of the Local Government Board whether his attention had been called to the proposed new bye-laws of the Thames Conservators, by which "no direct action will be taken to put a stop to the insanitary nuisances caused by house-boats and steam launches," and whether, in the interests of the millions of people who depend upon the Upper Thames for their water-supply, he will compel the Thames Conservators to take immediate and efficient steps to free the river from its present and ever-increasing state of pollution.—Mr. Ritchie said his attention had been called to the proposed bye-laws, and he had been in communication with the conservators of the River Thames on the subject. His hon. friend was incorrect in his assumption on the matter. The bye-law had intentionally been drawn as widely as possible in order to cover any possible pollution, and the conservators believed that when the bye-law came into operation it would have the effect of preventing the nuisance now arising from vessels moored in or navigating the river. He would, however, be happy to consider any suggestions relative to the bye-law.—Col. Dawnay gave notice that he would move a resolution on the subject.—Mr. H. H. Fowler asked if the legal advisers of the Local Government Board were satisfied that the bye-laws made by the Thames Conservators would in their present shape prohibit boats from discharging watercloset refuse into the river?—Mr. Ritchie: I have not considered it necessary to consult the legal advisers of the Local Government Board on the subject, but so far as I have been able to ascertain the opinion of the officials of the Local Government Board they believe that the bye-laws will have that effect.

MEDICAL TRIALS.

CITY OF LONDON COURT.

A MIDWIFERY CASE: DAWSON *versus* LANE.

THE plaintiff in this case stated that he was called at 8.30 A.M. on Oct. 3rd to defendant's wife, who was stated to be in labour. Believing it to be premature, and that no one was engaged to attend, he went at once. On arriving at the patient's house he found that another practitioner (who had been engaged, and sent for two hours before) had the conduct of the case. He therefore charged half-a-guinea for a "night visit." Defendant: It was not a night visit, but at half past eight in the morning. Plaintiff: Technically a "night visit," your worship. His Honour (to defendant): What have you to say? Defendant: He never did anything; why should I pay him? Judge: It does not matter; you called the doctor from his bed, and took him to your house, and you must pay the debt.

Judgment was given for plaintiff, with costs.

Obituary.

PROFESSOR BORODIN.

ON Feb. 28th, Dr. Alexander Porphyryevich Borodin, Professor of Organic Chemistry in the Military Medical Academy of St. Petersburg, died quite suddenly from cardiac paralysis, probably from embolism of highly diseased coronary arteries. He was born in 1834, and had held his professorship since 1864, having been twice reappointed for periods of five years. In his days of studentship the deceased Professor had distinguished himself in chemistry under the instruction and guidance of his teacher, Professor Zinin. His published works are tolerably numerous, and include papers on the analogy between phosphorous and arsenious acids from a toxicological point of view, on the estimation of salts in mineral waters, on brick tea, and a number of important articles on the estimation of nitrogen. By means of Professor Borodin's process combined with that of Kjeldahl, the clinical physician has now a means whereby this estimation may be made with a very moderate amount of difficulty and trouble. In spite of his arduous professorial and laboratory work, Professor Borodin found time for the cultivation of the art and science of music, in which he was quite an adept. He is, indeed, said to have rendered valuable service to the cause of music in Russia.

Medical News.

SOCIETY OF APOTHECARIES.—The following gentlemen passed the examination in the Science and Practice of Medicine, Surgery, and Midwifery, and received certificates to practise on March 10th:—

Charlesworth, George, Elstead, Godalming, Surrey.
Down, Arthur Reed, Newton-square, Bampton, Devon.
Paterson, George Snider, Toronto, Canada.
Vinter, Sydney Garratt, Monmouth-road, Bayswater.

HOSPITAL SUNDAY collections were made at Middlesborough on the 6th inst.

A FAMILY, consisting of father, mother, and several children, at Grimsby, have been poisoned by eating tinned meat.

AT an inquest held at South Tottenham recently on the body of a boy, the jury returned a verdict of "Death from hydrophobia, caused by the bite of a cat."

GUY'S HOSPITAL.—The treasurer of Guy's Hospital, London, has received another anonymous donation of £500 towards the special fund.

MEDICAL MAGISTRATE.—The Lord Chancellor has added the name of Sir James Sawyer, M.D., to the Commission of the Peace for the borough of Birmingham.

TWO sons of the late Mr. Samuel Morley have each presented £2250 to the Deaconesses' Institution and Hospital, Tottenham, in order that the debt on the third wing of the hospital, lately built, may at once be cancelled.

THE date of the annual festival in aid of the funds of the Hospital for Sick Children, Great Ormond-street, has been altered from the 17th inst. to May 25th. The chair will be occupied by the Marquis of Ripon, K.G.

AT a public meeting at Portsmouth on the 3rd inst., it was resolved, amongst other plans for celebrating the Jubilee, to provide a fund for use in connexion with the Royal Portsmouth, Portsea, and Gosport Hospital.

PRESENTATION.—The members of the Leith police ambulance class have presented Mr. O. H. Garland with a handsome pair of silver candelabra, in recognition of his services as lecturer.

THE BRITISH ASSOCIATION will this year meet in Manchester, and the session will commence on Aug. 31st. Sir Henry Roscoe, M.P., F.R.S., has been chosen president. It is anticipated that the meeting will be one of the most successful ever held.

MANCHESTER SOUTHERN HOSPITAL.—At a meeting of the Board of this institution on the 28th ult., it was resolved that a lying-in hospital be formed in connexion with the hospital, and a sub-committee was appointed to give effect to the resolution.

THE East Sussex and West Hants Infirmary was reopened on the 8th inst., after having been closed in sections for three months during the renewal and remodelling of the sanitary arrangements of the building, at a cost of about £1000. The work has been designed and carried out by Mr. Mark Judge.

NOTTINGHAM BOROUGH ASYLUM.—An important extension of the Nottingham Borough Lunatic Asylum is about to be undertaken, whereby accommodation will be provided for 200 extra patients, the number at present in the building being 280. It is estimated that the work will cost nearly £30,000.

THE PROPOSED HOSPITAL AT BOURNEMOUTH.—At a largely attended meeting in Bournemouth on the 10th inst., it was announced that Mr. W. Clapcott Dean had offered a free site, valued at £1000, for the erection of the proposed public hospital. The subscriptions promised towards the building expenses amount to £3632.

AT the annual meeting of the subscribers to the Chesterfield and North Derbyshire Hospital on the 9th inst. it was reported that 217 patients had been admitted during the year, and that the dispensary patients had numbered 1851, as against 1983 in the previous year. The income amounted to £1848.

NORTH-WESTERN ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—At the usual monthly meeting of the members of this Association on the 10th inst. Dr. Sidebottom (Hyde) read a paper on "The Small-pox Epidemic in Hyde in 1886." A discussion, in which several members of the Association took part, followed the reading of the paper.

BEQUESTS.—The late Miss Hargreaves of Mellor, near Blackburn, has bequeathed the sum of £1000, less legacy duty, to the Blackburn and East Lancashire Infirmary. A residuary legacy has also been left to the institution by an East Lancashire gentleman recently deceased, but the exact amount has not yet been stated.

A MEETING convened by the London Tailors' Machinists' Society was held on the 12th inst., for the purpose of explaining and condemning the sweating system. Resolutions calling for a Royal Commission of Inquiry, and for the appointment of additional factory inspectors in East London, were carried.

AT the meeting of the Lambeth Board of Guardians on the 9th inst. the medical officer of the infirmary reported that there were seventy-five men and seven women in that institution in excess of the proper number of inmates.

UNIVERSITY OF CAMBRIDGE. — At Gonville and Caius College, Dr. Shuttleworth's Scholarship, of the annual value of £60, and tenable for three years, open to the competition of medical students of the University of not less than eight terms' standing, given for proficiency in botany and comparative anatomy, has been awarded to Francis Henry Edgeworth, B.A., scholar of the College.

OLEOMARGARINE.—A Bill regulating the importation, manufacture, and sale of butter substances has been brought into the House of Commons by Sir Richard Paget, M.P. for the Wells Division of Somerset. According to it, oleomargarine is to be sold only under its own name, the penalty incurred by infringement of this provision being £20 for the first offence, and £50 on subsequent occasions.

HEREFORD GENERAL INFIRMARY. — The annual general meeting of the governors of this charity was held on the 10th inst. The annual report, which was adopted, stated that the number of in-patients received during the year was 654, and of out-patients 2521. The receipts, inclusive of a balance in the hands of the treasurer of £667, amounted to £4915, and the expenditure to about £3000.

YORK EYE INSTITUTION.—On the 11th inst., at a meeting of the subscribers to this charity, it was decided to hand over the funds and property of the institution to the York County Hospital, on condition that Dr. Anderson be appointed ophthalmic surgeon, and that in-patients be admitted into the hospital by ordinary hospital recommendation, and out-patients be attended to without recommendation.

BELVIDERE HOSPITAL, GLASGOW.—This hospital, for infectious diseases, has just been completed, and was on the 4th inst. formally handed over to the care of the Health Committee of the Town Council. For small-pox patients there are five brick pavilions, comprising ten wards and containing 150 beds. Other infectious diseases are provided for by thirteen pavilions, with twenty-six wards and 390 beds. The hospital has cost £106,402, exclusive of the value of the site, which is an estate of thirty-three acres, situated on the banks of the Clyde, in the east-end of the city.

EXTENSIVE SEIZURE OF DECOMPOSED TINNED MILK.—At a late sitting of the Newcastle Police-court the sanitary inspector applied for an order for the destruction of 136 tins of condensed milk, which, according to the evidence of the medical officer of health, was in a state of decomposition. It is right to state that the tins were not branded with the name of the manufacturer, and in the opinion of Dr. Robinson the milk had been bad when packed. The order was at once granted. The use of condensed milk has very much increased in the north, especially in the winter, and, as a rule, it is found to be pure and economical.

BOLTON INFIRMARY AND DISPENSARY.—The annual meeting of the subscribers to this institution was held on the 10th inst., when the secretary reported that the average daily number of in-patients during the past year was seventy-two, the greatest number at one time being ninety-two, and the smallest number fifty. The total receipts for the year amounted to £5023, and the total expenditure to £5417. The committee appeal for additional annual subscriptions to enable them to provide fourteen more beds, for which there is room in the hospital, but which, through want of funds, it has hitherto been impossible to maintain.

ST. MARY'S HOSPITAL, MANCHESTER.—The annual general meeting of the subscribers to this charity was held on the 14th inst., when the secretary stated that the income for the past year had amounted to £3514, and the expenditure to £3862. The number of cases under treatment during 1886 was 15,098, as compared with 14,240 in 1885. It was resolved to appeal to the general public in Manchester, Salford, and surrounding district for funds necessary to provide for an extension of the present accommodation in the hospital, and a list of donations for this object amounting to about £10,000, which have been already promised, was read out.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—The annual meeting of the governors of this hospital was held in the Medical Institute, Cleveland-road, on the 8th inst. The annual report stated that during the last year the number of in-patients had been 1956, and the number of out-patients 11,858. The income had been £6854 8*s.* 10*d.*, and the expenditure £7116 12*s.* 2*d.* The Hospital Saturday contributions have amounted to £2182 0*s.* 5*d.*, being a decrease of £30, and the Hospital Sunday collections to £578 15*s.*, being a decrease of £76. The bequests received during the year have amounted, after deduction of legacy duties, to £1202 9*s.* 2*d.* The average stay in the hospital of each patient was twenty-four, days, as against twenty-two days last year. The number of patients sent to various convalescent homes has been 97.

SANITARY REGISTRATION OF BUILDINGS BILL.—At the meeting of the Council of the Sanitary Assurance Association, on March 14th, a communication was read from the Association of Municipal and Sanitary Engineers and Surveyors requesting the Council to convene a conference on the subject of the Sanitary Registration Bill, and, in the event of the request being acceded to, offering to co-operate in the matter. After some discussion, the following was passed unanimously:—"That, in compliance with the request of the Association of Municipal and Sanitary Engineers and Surveyors, a conference be convened to consider and report upon the principle and details of the Sanitary Registration of Buildings Bill which is now before the House of Commons; that the first meeting of the conference be held on Monday, April 4th, at 3 P.M.; that Sir Joseph Fayrer, Sir Kennett Barrington, Mr. Mark H. Judge, and Mr. H. Rutherfurd, barrister-at-law, be appointed to represent the Sanitary Assurance Association at the conference; that Mr. C. C. Lacaita, M.P., Dr. R. Farquharson, M.P., Sir Guyer Hunter, M.P., Dr. Charles Cameron, M.P., and Sir Henry E. Roscoe, M.P., be invited to attend the conference; and that the governing bodies of the following institutions be requested to appoint four gentlemen to represent them at the conference: The Royal Institute of British Architects, the Institution of Civil Engineers, the Royal Institute of Architects of Ireland, the London Sanitary Protection Association, the Society of Medical Practitioners registered as qualified in Sanitary Science, the Institution of Surveyors, the Association of Municipal and Sanitary Engineers and Surveyors, the Society of Medical Officers of Health, and the Sanitary Institute of Great Britain. Further, that the question of inviting other bodies to join in the conference be left in the hands of the conference."

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ARGO, ADAM, M.B., C.M.Aber., has been appointed Medical Officer for the Bridworth District of the Runcorn Union.

COLLINSON, F. W., M.B., C.M.Edin., M.R.C.S., has been appointed Senior House-Surgeon to the Preston and County of Lancaster Royal Infirmary, vice W. F. Moore, resigned.

FRASER, ANGUS, M.A., M.D., C.M. Aber., has been appointed Second Physician to the Aberdeen Royal Infirmary, vice Beveridge, deceased.

GOSTLING, T. P., M.R.C.S., L.R.C.P.Lond., L.S.A., late House-Surgeon, House-Physician and Obstetric Assistant to University College Hospital, London, has been appointed House-Surgeon to the General Infirmary, Worcester, vice J. Allman Powell, M.D., resigned.

GRIFFIN, ALBERT W., M.R.C.S., L.R.C.P.Ed., has been appointed Medical Officer for the First District of the Uckfield Union.

MACKIE, JOHN, M.D.Ed., L.R.C.S.Ed., has been appointed Medical Officer to the Brechin Local Authority, vice Lawrence, resigned.

MORIARTY, PATRICK HICKSON, L.R.C.S., L.R.C.P. Ed., has been appointed Medical Officer for the Listowel Union, and Medical Officer of Health, vice Rice, deceased.

MUDGE, THOMAS H. T., M.R.C.S., L.R.C.P.Lond., has been appointed Medical Officer for the Paignton District of the Totnes Union.

RODGER, JAMES, M.A., M.D., C.M.Aber., has been appointed Assistant Physician to the Aberdeen Royal Infirmary.

ROSS, RICHARD A., M.R.C.S., L.S.A., has been appointed Medical Officer for the Eighth District of the Bedminster Union.

SMITH, PATRICK BLAIKIE, M.D., C.M. Aber., has been appointed Third Physician to the Aberdeen Royal Infirmary, vice Fraser, promoted.

THOMPSON, WILLIAM C., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer for the West Drayton District of the Uxbridge Union.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

BETHLEM HOSPITAL.—Two Resident Medical Students who have recently obtained their diplomas to practise medicine and surgery. Apartments, rations, and attendance.

BURTON-ON-TRENT FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Resident Surgeon.

CHELTENHAM GENERAL HOSPITAL.—House-Surgeon. Salary £80 per annum, with board and apartments.

CHILDREN'S HOSPITAL AND DISPENSARY, Manchester.—Medical Officer. Salary £180 per annum.

GENERAL HOSPITAL, Birmingham.—Resident Surgical Officer. Salary £130 per annum, with residence, board, and washing.

HUDDERSFIELD INFIRMARY.—Junior House-Surgeon. Salary £40 per annum, with board, lodging, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House-Surgeon. Salary £70 per annum, with board and residence in the Institution.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer of the Convalescent Home at Cheadle. Salary £150 per annum, with board and residence.

OLDHAM INFIRMARY.—House-Surgeon. Salary £80 per annum.

OWENS COLLEGE, Manchester.—Senior Demonstrator in Physiology. Stipend £150 per annum.—Junior Demonstrator in Physiology. Stipend £100 per annum.

ROYAL FREE HOSPITAL, Gray's-inn-road.—Junior Resident Medical Officer. Board and residence are provided in the hospital.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Assistant House-Surgeon. Salary, with board and residence, £80 per annum.

TOTTENHAM AND EDMONTON DISPENSARY.—Dispenser. Salary £50, plus £20 a year allowance for fuel and service, with house free.

YORK COUNTY HOSPITAL.—Assistant House-Surgeon. Salary £50 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

BALLANCE.—On the 11th inst., at 56, Harley-street, Cavendish-square, W., the wife of Charles A. Ballance, M.S., F.R.C.S., of a son.

NICHOLS.—On the 9th ult., at Nowgong, Bengal, the wife of Surgeon F. P. Nichols, M.B.Cantab., M.R.C.S., Army Med. Staff, of a daughter, who only survived her birth a few minutes.

OAKES.—On the 9th inst., at Merimbula, Priory-road, N.W., the wife of Dr. Arthur Oakes, of a daughter.

SMYTH.—On the 15th inst., at Holly Lodge, Brockley, S.E., the wife of F. Sydney Smyth, L.R.C.P., F.R.C.S.E., of a son.

STEWART.—On the 16th inst., at Glenbarr, Mapperley-road, Nottingham, the wife of Donald Stewart, M.D., of a son.

WELLS.—On the 11th inst., at Cuckfield, Sussex, the wife of A. E. Wells, M.D., of a son.

MARRIAGES.

ELLIOTT—SLADE-GULLY.—On the 9th inst., at Chute, F. H. Elliott, M.D., to Eleanor Louisa, eldest daughter of the late Captain Slade-Gully, Bengal Staff Corps.

JOLLY—LESTER.—On the 10th inst., at St. Mary's Episcopal Church, Glasgow, Sydney Blake Jolly, M.B.Cantab., M.R.C.S., to Maude Helena, younger daughter of Wm. Lester, Esq., of Donne-terrace, Glasgow.

LOWNDS—IMRAY.—On the 16th inst., in the Chapel Royal, Savoy, by the Rev. Henry White, M.A., Chaplain of the Savoy, and Chaplain in Ordinary to the Queen, Henry Arthur Lownds, L.R.C.P., L.R.C.S., of Kirkburton, Yorks, to Ethel, daughter of John Imray, Esq., M.A., of Sedgemere, East Finchley.

ORR—WILKINSON.—On the 12th inst., at Granard Presbyterian Church, Putney, London, Wm. Young Orr, M.B.Ed., M.R.C.S., to Margaret, fourth daughter of the late Frederick Wilkinson, of Cleveland House, Barnes, S.W.

PRIESTLEY—JACQUES.—On the 12th inst., at the Parish Church, Streatham, S.W., Joseph Priestley, B.A., M.D., M.R.C.S., to Edith Blanche, youngest daughter of Edwin Jacques, M.D., of Fir-grove, Brixton, S.W.

DEATHS.

FLECK.—On the 14th inst., at Frogmoor Lodge, High Wycombe, Kathleen, only daughter of William Fleck, M.D. (of croup), aged 2 years.

FRANCIS.—On the 6th inst., at Brighton, Dayrell Joseph Thackwell Francis, M.D., F.R.C.P. Lond., of Wethersell Grange, Cranleigh, Surrey, aged 67.

GILLAND.—On the 8th inst., at Sevenoaks, Robert Bryce Gilland, M.D., late Medical Superintendent of Berks County Lunatic Asylum, Moulsford.

HARTLEY.—On the 10th inst., at Roxeth Lodge, Carshalton, Surrey, James Hartley, M.R.C.S.

MARKWICK.—On the 12th inst., at his residence, Ventnor-villas, West Brighton, Alfred Markwick, L.R.C.P., F.R.C.S. (late of Leinster-square, Bayswater), aged 64.

STUTTER.—On the 9th inst., at Wickhambrook, Newmarket, Suffolk, William Gaskoin Stutter, F.R.C.S., aged 71.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

Medical Diary for the ensuing Week.

Monday, March 21.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.
SOCIETY OF ARTS.—8 P.M. Prof. W. C. Unwin: Machines for Testing Materials, especially Iron and Steel (Cantor Lecture).
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. R. Brudenell Carter: A case of Swollen Optic Disc in which the Sheath of the Optic Nerve was excised behind the Eye.—Dr. Ralfe: Renal Calculus passed after the Use of Solvents.—Dr. Allchin: Case of Intussusception.—Mr. J. Astley Bloxam: Case of Congenital Malformation of the Diaphragm.

Tuesday, March 22.

GUY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 1.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.
ROYAL INSTITUTION.—3 P.M. Prof. Gamgee: Function of Respiration.
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Broadbent: The Pulse (Croonian Lecture).
ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.—8.30 P.M. Dr. H. Rink: On the Migrations of the Eskimo.—Mr. Coutts Trotter: Notes on the Inhabitants of the Polynesian Islands.—Lieut. F. Elton, R.N.: Extracts from Notes on Natives of the Solomon Islands.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Mr. Godlee: On a case of Obstruction of one Ureter by a Calculus, accompanied by Complete Suppression of Urine.—Mr. R. W. Parker: On a case of Suppression of Urine, following Injury to a Sacculated Kidney containing Calculi, the other kidney being entirely disorganised.—Dr. Warner and Dr. Fletcher Beach: A case of Chronic Meningitis, probably syphilitic, and causing Progressive Dementia.

Wednesday, March 23.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9 A.M.; Saturday, same hour.
SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES, AND COMMERCE.—8 P.M. Dr. Percy Frankland: Some of the Conditions affecting the Distribution of Micro-Organisms in the Atmosphere.
HUNTERIAN SOCIETY.—8 P.M. Dr. Turner: Actinomycosis.—Dr. Dundas Grant: (1) A case of Caries of the Vertebræ from a Fish-bone in the Throat; (2) Laryngeal Growths; (3) Carcinoma of Œsophagus.
SOCIETY OF ARTS.—8 P.M. Dr. Percy Frankland: Some of the Conditions affecting the Distribution of Micro-organisms in the Atmosphere.
BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Specimens will be shown by Drs. Pearse, J. Mansell-Moullin, Bdis, and others.—Mr. Lawson Tait: Methods of Cleansing the Peritoneum. Council at 8 P.M.

Thursday, March 24.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. F. Max Müller: Science of Thought.
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Priestley: Pathology of Intra-uterine Death (Lumleian Lecture).

Friday, March 25.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
SOCIETY OF ARTS.—8 P.M. Mr. Frederick Clifford: Indian Coffee.
CLINICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Davies Colley: On Contraction of the Metatarso-phalangeal Joint of the Great Toe.—Dr. Samuel West: Cases of Internal Suppuration, acute and chronic, without fever.—Mr. Treves: A Form of Glandular Swelling that is cured by Arsenic.—Mr. Parker and Dr. Robinson: Inherited Congenital Deformity of the Hands and Feet, Plastic Operation on the Feet.
ROYAL INSTITUTION.—9 P.M. The Right Hon. Lord Rayleigh: Colour of Thin Plates.

Saturday, March 26.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. The Rt. Hon. Lord Rayleigh: On Sound.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, March 17th, 1887.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 11	30·05	E.	36	35	59	45	32	...	Hazy
,, 12	29·78	N.E.	36	35	58	40	35	·23	Snowing
,, 13	30·17	N.	35	33	70	41	27	...	Fine
,, 14	29·91	N.W.	30	...	60	42	26	...	Foggy
,, 15	29·84	E.	34	34	...	35	29	·09	Snowing
,, 16	29·95	E.	33	32	68	40	30	.42	Overcast
,, 17	30·11	E.	30	...	57	37	27	...	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

OBSTINATE CONSTIPATION IN INFANTS.

ON this subject *Whole Meal* writes that Dr. Simmonds (see THE LANCET, *ante*, p. 506) has "hit the right nail on the head" in his suggestion of the use of wheat bran for the constipation of infants. Our correspondent says he had been a martyr to both indigestion and constipation for years, but the sole use of whole meal as bread has entirely freed him from the pain and discomfort attending those affections.

L.R.C.P.—1. The nervous system of the patient should be thoroughly investigated. The positive pole should be placed at the back of the neck, and the negative moved about the forehead.—2. Perhaps the Secretary of the Royal College of Surgeons would give our correspondent the information he desires. It would obviously be unadvisable to publish the details referred to.

Dr. N. Whitelaw Bourns.—The qualifications are ample for the recovery of all reasonable medical and surgical charges.

M.R.C.S. will find the information he desires in Cates' Dictionary of General Biography (published by Longmans), under the heading "Roderic."

PROFESSIONAL ETIQUETTE.

To the Editors of the THE LANCET.

SIRS,—Some time ago one of my patients was sick, and during her illness her mother went home to London. In London she consulted a physician about her daughter, and he gave her a prescription and actually sent out medicine, at least the medicine and the prescription duly arrived, though too late to be of any use, as my patient had quite recovered. This was, perhaps, fortunate, as the case was such as made it impossible for him to be sure of his diagnosis. But as yet there has been no word to me of excuse for the liberty that has been taken with my practice. As this is the second time such a thing has been done to me by London medical men, I would be glad to know if it is the usual custom, if it fulfils their idea of "doing to others as they would have others do unto them." The position of my patient being known to both, and being such that no time would pass before seeking medical aid in every case except the most trifling, neither can have the excuse of "not knowing that I was in attendance." Medical practice in Jerusalem is disagreeable enough, in all conscience, without being made so by conduct such as I have described. We number nineteen in Jerusalem, mostly all of different nationalities, and the jealousy of race is added to professional jealousy, and in consequence, we make a very unhappy family. I have not written to either of the gentlemen to whom I refer above, but probably they will know whom I mean when they see this letter in THE LANCET. It is not at all uncommon for tourists of our profession, especially in its middle grades, to give their advice here to patients who may seek it without ever inquiring, or ignoring that they were under treatment at the time.—Yours faithfully,

Jerusalem, Feb. 26th, 1887. JOHN H. OGILVIE.

THE MOXON MEMORIAL FUND.

PRESIDENT: Sir William Jenner, Bart., K.C.B., M.D., F.R.S. Hon. Secs.: G. N. Pitt, M.D., 34, Ashburn-place, S.W.; W. A. Lane, M.S., 14, St. Thomas's-street, S.E. Subscriptions should be forwarded to the Hon. Treasurer, R. Clement Lucas, B.S., F.R.C.S., 18, Finsbury-sq., E.C.

Third List.

Subscriptions announced	£412	14	6	Th. Harbottle, Esq. ...	£2	2	0
E. Homan, Esq., J.P. ...	10	10	0	J. F. Goodhart, M.D. ...	2	2	0
J. Braxton Hicks, M.D., F.R.S.	5	5	0	Sir J. Fayrer, K.C.S.I. ...	1	1	0
Prof. Humphry, M.D., F.R.S.	5	5	0	Owen Bowen, Esq. ...	1	1	0
John Hall, M.D. ...	5	5	0	Joseph Coats, M.D. ...	1	1	0
W. Bhason, Esq. ...	5	5	0	Arthur Pearson, Esq. ...	1	1	0
Prof. W. S. Greenfield, M.D.	3	3	0	Herbert Lund, M.B. ...	1	1	0
G. N. Pitt, M.D. ...	3	3	0	William Ewart, M.D. ...	1	1	0
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H. Cosmo Bonsor, Esq., M.P.	2	2	0	C. D. Higham, Esq. ...	1	1	0
T. Charrington, Esq. ...	2	2	0	W. H. Lamb, Esq. ...	1	1	0
F. B. Carey, M.D. ...	2	2	0	S. W. Bradnack, Esq. ...	1	1	0
W. C. Toulmin, Esq. ...	2	2	0	George Turner, Esq. ...	1	1	0
John Brockwell, Esq. ...	2	2	0	Shirley F. Murphy, Esq.	1	1	0
Henry Davy, M.D. ...	2	2	0	J. C. Uhthoff, Esq. ...	1	1	0
W. H. A. Jacobson, F.R.C.S.	2	2	0	W. Makeig Jones, Esq. ...	1	1	0
Edward Coffin, Esq. ...	2	2	0	R. M. Harvey, Esq. ...	1	1	0
G. R. Burnet, Esq. ...	2	2	0	George Abbott, Esq. ...	1	1	0
				L. A. Dunn, B.S., F.R.C.S.	1	1	0
				E. C. Roberts, Esq. ...	1	1	0
				Robert Cuff, M.B. ...	0	10	6
				E. W. Du Buisson, Esq....	0	10	6
				S. W. Mac Thwaine, Esq.	0	10	0

Errata.—"J. B. Trap, Esq.," should have been J. B. *Trapp*, Esq., and "T. S. Marley, M.D.," should read T. S. *Morley*, M.D.

C. O H.—It is usual to call medical evidence in such cases, but the coroner is not under any obligation to do so, especially when the cause of death is obvious.

Dr. M'Mordie's letter shall have attention.

REMARKS ON VACCINATION AND REVACCINATION.

To the Editors of THE LANCET.

SIRS,—In a society journal this week the following occurs:—"The illness of Prince Alexander of Battenburg has put the Darmstadt *ménage* in a very pretty fright, and vaccination has become a rage with Prince Alexander of Hesse's household, every soul of which has now a sore arm, which it takes him all his time to guard from injury. One lady, proud of her arms and unwilling to have their beauty marred by inoculation marks, wanted the operation to be performed on the calf of her leg. Her request was refused by the physician." Without entering into discussion on the above passage, I shall ask the question, Should a physician refuse to comply with the patient's request under similar circumstances? I say, No. I have for some years advised vaccination and revaccination on the thigh in preference to the arm or any other part. The position I prefer is the middle or lower third of the outside, in infants selecting the leg which is least likely to come in contact with the mother or nurse. I find the operation to be more easily performed here than on the arm; the surface is larger, smoother, and less apt to bleed, the arm being frequently congested at the time from the undressing of needlessly profuse and tight-fitting garments. In cold weather this situation has increased advantages. I have never had the vesicles injured afterwards. It is especially for women that the question of site is of so much importance, with their ever-eccentric tyrant, fashion; and never was fashion more unseemly and insanitary than the present style demanded by the etiquette of the Court!

I am, Sirs, yours faithfully,

Ladbroke-grove, W., March 11th, 1887. W. SINCLAIR THOMSON, M.D.

H. N.—No; there is no illegality in the operation *per se*. The duty of a medical man if consulted on such a question is quite clear. As a rule, he ought to discountenance the practice. It is, moreover, highly reprehensible, as offering an inducement to vice.

Puzzled.—The only reply we can make our correspondent is that made by Lord Bacon to so many of his own queries—*Fiat experimentum*.

Mr. G. Nelson has not enclosed his address.

THE TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—I see by THE LANCET of the 5th inst. that Professor Kremianski of Moscow has been endeavouring to effect the cure of phthisis (tuberculous) by means of atomised aniline. I may say that I have been for some time experimenting in the same direction, using a spray of solution of mercuric chloride ($HgCl_2$) of the strength of 1 in 5000. And so far as I have been able to judge, the results are decidedly promising, and likely to prove very satisfactory. I shall prepare a record of all cases which I may treat by this method (both successfully and unsuccessfully), and when the list is completed and arranged, I shall, if you consider the matter of sufficient importance, send the same to you for publication. I should have communicated with you regarding this subject before this, but thought it better to wait until fairly sure of my ground. The article above referred to in your last issue has induced me to ventilate the matter sooner than I had intended.

I am, Sirs, your obedient servant,

J. REYNOLDS, M.D. Brux., &c.

Cold Harbour-lane, Brixton, S.W., March 8th, 1887.

IMPROVED METHOD OF PACKING TINNED PROVISIONS.

IN view of the injury to health sometimes resulting from the ingestion of provisions secured in tin boxes, any intelligent attempt to avoid the possible dangers attendant upon that method of food preservation is to be commended. Such an attempt has been made by Mr. N. Ruffin, of Charlotte-street, Fitzroy-square, who has submitted to us specimens of tin cases in which the contents are kept from contact with the metal by means of a covering of muslin in the first place, followed by a coating of fat, and then by a layer of gelatine. This plan seems well calculated to effect the purpose intended.

G. Sheppard.—We understand that a proposal for giving the nursing in Indian hospitals into the charge of English ladies is now engaging the attention of the Indian authorities. Military nursing in England and in the Colonies is conducted by lady nurses who must have been trained before acceptance. Application should be made to the Director-General, Medical Department, Whitehall. Regarding other hospitals—to mention one or two,—the lady superior, All Saints, Margaret-street, would be able to give information about the Cape Town and, probably, many other colonial hospitals. The nursing at Kimberley is under the Bishop of Bloomfontein's Mission. There is a Greek hospital at Alexandria, where, we believe, English nurses are wanted. The superintendent might be communicated with. According to a letter in the *Hospital* for Nov. 20th, 1886, trained nurses are much valued and highly paid at the Philadelphia hospital.

N. L.—We certainly think that testimonials of the kind submitted to our notice are highly objectionable. But in this case, as in some others, evidence is wanting to show how far the testimonial-giver approves of the use made of his expression of opinion.

Dr. Elder.—The paper is marked for insertion.

STREET SEWER-VENTILATORS.

To the Editors of THE LANCET.

SIRS,—I would call attention to a very manifest possible cause of disease—i.e., the unprotected sewer ventilators which are generally placed in the centre of the road. The exhalations are not only unpleasant, but dangerous. I have myself suffered from them, and have attended patients who have similarly suffered (one died of intercurrent pneumonia after six weeks' illness). The symptoms are great feverishness, subsequently followed by exuviation of the mucous epithelium of the tongue and gullet (so that in swallowing there is a sensation as of burning, which extends to the stomach), inflammation of the tonsils, the gums (particularly) becoming inflamed, very painful, and spongy, and the teeth loosened in severe cases; where there are bad teeth or stumps inflammation of the periosteum occurs. I attribute this disease, which, in order well to fix its cause, I have called "gully-hole fever," to those ventilators from the fact that all my patients have lived close to one.

Of course, the ventilation ought to be conducted through hollow iron shafts, and drawn through this by means of burning gas-jets. Modifications of the Argand burner would be best, as the air would then have to pass through the flame, thoroughly destroying the germs by burning (as I suggested ten years ago as the resolution of the small-pox hospital difficulty). One advantage of this system is that the ventilation remains no longer passive, but becomes active, the vacuum formed by the heat drawing up the air forcibly, so that probably not more than one-tenth the present number of ventilators would be required. In addition, the shafts so arranged could be used as brilliant gas-lights.

I am, Sirs, yours obediently,

HENRY GODRICH, B.A., 1st B.Sc. Lond.

Long Ditton, March 9th, 1887.

PROVIDENT DISPENSARIES: THE WANDSWORTH MEDICAL AID SOCIETY.

IN answer to the letter on this subject from Dr. Nicholas, which appeared in our last issue, "A Grumbler," whose communication appeared on the 12th ult., states that he knows nothing of the promoters of the Wandsworth Medical Aid Society, nor of the place itself. He distinctly stated in his letter that he only took that particular society as a type, and contends that its promoters have really acknowledged the justice of his remarks, which were directed against the system of combination to obtain medical services at small fees.

A Recent M.R.C.S., L.R.C.P.—There is no basis for doing so, either in law or bye-laws.

Ambulator is referred to THE LANCET of March 12th, page 541.

MEDICAL PRACTICE IN THE WESTERN STATES.

To the Editors of THE LANCET.

SIRS,—I shall feel much obliged if any of your readers will give me some information about medical practice in Western America, especially in California and British Columbia. Are British diplomas fully recognised in both places? Is there a fair opening in either? And is the climate suitable for patients suffering from lung diseases? Can drugs be obtained easily there? Any other information will very much oblige.

Yours faithfully,

March 15th, 1887. A CONSTANT READER.

PLACENTA PRÆVIA.

As Dr. Murphy, in his letter published last week, intimates, there *is* a misprint in our article on the above subject. On page 479, second column, the commencement of the first paragraph should read as follows: "These accoucheurs treated *183* cases, with eight maternal deaths—a mortality of 4·3 per cent." It is hardly necessary to remark that the argument is not affected by the error.

Sister Jessie's lines are hardly of sufficient merit for our columns.

NITRITE OF AMYL: RELIEF OF AFTER-PAINS.

To the Editors of THE LANCET.

SIRS,—The following note may be found interesting to many of your readers.

A lady whom I had the day before delivered of a fine boy complained to me on my second visit of excruciating after-pains, which she declared were worse than any she had experienced during the labour. On examination I found the womb firmly contracted. Her loss was slight, and no clots larger than beans had been passed. As it was some distance from home, and several hours must necessarily have elapsed before I could have sent her any medicine, I broke a couple of nitrite of amyl capsules (four grains in each) into a smelling-bottle, and directed the patient to take two or three deep inhalations when she felt a pain coming on. The effect was simply magical; the pains were immediately relieved, and shortly ceased altogether, the patient being soon able to take some refreshing sleep. She quickly made an excellent recovery. I have since tried the same remedy in two other cases of less severity, with similar results. I have also found this useful drug invaluable in the sickness of pregnancy and in obstinate cases of dysmenorrhœa. I have hitherto not had a single failure or bad result. Inhalation seems to be more certain and lasting than the internal exhibition of the drug. To all who are called upon to prescribe for the above common ailments I can strongly recommend this simple and, in my hands, efficacious plan of treatment. I am, Sirs, yours truly,

South Molton, March 4th, 1887. F. WELLESLEY KENDLE, M.R.C.S.

CONSTIPATION.

To the Editors of THE LANCET.

SIRS,—I shall be glad if any of your readers can give me a hint as to the treatment of the following case: The patient, a lady aged twenty-two, has been suffering the last four months from obstinate constipation. All the usual remedies have been tried, but without success; and relief can now only be obtained by the use of enemata. I may add that the patient is about three months advanced in pregnancy, and there is nothing abnormal with the pelvic viscera.

I am, Sirs, yours faithfully,

March, 1887. A CONSTANT READER.

COLORADO.

To the Editors of THE LANCET.

SIRS,—In your issue of Feb. 19th "A Physician" asks for information relative to Colorado as a health resort. I have seen no replies to that request, and would therefore suggest that he refers to papers noted in the Medical Digest and Appendix, Section 676: 4.—Yours truly,

Boundary-road, N.W., March 11th, 1887. RICHD. NEALE, M.D. Lond.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Kingston Fowler, London; Dr. Bantock, London; Dr. Hurry, Reading; Sir J. Sawyer, Birmingham; Mr. Clement Lucas, London; Dr. Mac Alister, Cambridge; Dr. F. Warner, London; Dr. W. Ewart, London; Dr. John Williams, London; Mr. Gwillim, Marlborough; Mr. Milner; Dr. R. Lee, London; Mr. W. Norman; Mr. Hughes, London; Mr. P. Dunn, London; Dr. G. N. Pitt, London; Mr. Gravely, Newick; Mr. Outhwaite; Dr. Weaver, Southport; Mr. G. R. Keeling, London; Mr. Furneaux Jordan, Birmingham; Mr. Cooper, Chester; Mr. A. Pierson, Bolan Pass; Dr. Childs-Macdonald, London; Mr. H. Godrich; Mr. Leighton Kesteven, Brisbane; Mr. H. C. Flory, Poynton; Messrs. Murray and Sons, Glasgow; Mr. Bennett May, Birmingham; Messrs. Beale and Son, Brighton; Mr. Kershaw, London; Mr. Hunt, Hull; Mr. Bruce Clarke, London; Mr. J. H. Ogilvie, Jerusalem; Messrs. Oppenheimer and Co., London; Mr. W. K. Hatch, London; Messrs. Brady and Martin, Newcastle-on-Tyne; Mr. A. Street, Cambridge; Dr. Sinclair Thomson, London; Dr. H. R. Bigelow, Leipsic; Messrs. Peebles and Son, London; Mr. L. Humphry, Cambridge; Mr. G. W. Hambleton, London; Dr. J. Niven, Oldham; Mr. T. Laffan, Cashel; Mr. H. K. Lewis, London; Dr. Dawson, London; Mr. Weaver, Epsom; Mr. H. Welch, Blackpool; Dr. Cousins, Southsea; Mr. S. M. Copeman, London; Mr. Long, London; Mr. Dalton, Newhaven; Messrs. Blake and Co., Leeds; Mr. N. W. Bourns, London; Mr. W. C. Nickels, London; Mr. Gurner, London; Mr. C. Roberts, London; Mr. C. J. Bond, Leicester; Dr. O'Neill, Belfast; Mr. Saul, Tottenham; Mr. A. Millman, London; Mr. Easterbrook, London; Messrs. Trübner and Co., London; Mr. Reiniger, Erlangen; Mr. Haslam, Birmingham; Mr. A. E. Barker, London; Dr. M'Mordie, Belfast; Mr. Corbishley, Macclesfield; Mr. Steptow, Bisley; Mr. Luca, London; Mr. Oliver, Doncaster; Dr. Fisher, Punjaub; Mrs. Heslop, Preston; Mr. Birchall, Liverpool; Mr. Cosburn, Newbury; Mr. H. J. Gilbert; Messrs. King and Co., London; Mr. Ricker, St. Petersburg; Mr. Edwards, Chesterfield; Mr. Cohen, Birmingham; Mr. Sturmfel, London; Mr. Taylor, Aberdeen; Mr. Heywood, Notts; Mr. Carter, Cambridge; Miss Dykes, Hammersmith; Mr. Saunders, Manchester; Messrs. Hopkinson and Co., Notts; Mr. Davies, Bath; Mr. Ross, Edinburgh; Messrs. Dawson and Sons, London; Mr. Armstrong, Manchester; Messrs. Street and Sons, Guildford; Mr. Massingham, Clifton; Messrs. Hopcraft and Co., London; Dr. Wall, Peterboro'; Mr. Immisch, London; Mr. Parker, Sandymount; Messrs. Orridge and Co.; Mr. Thompson, Oldham; Dr. Harman, Australia; Messrs. Riddle and Co.; Mr. W. Grant, Blantyre; Ambulator; A Recent M.R.C.S., L.R.C.P.; A Victim of the Law; A Grumbler; C. O'H.; H. X.; Chirurgicus; Josephine, Notts; Sister, London; Medicus, London; Matron, Grantham; M.D., Brighton; A. C. B., Brompton; N. L.; An Old Indian; A Constant Reader; Chathamite; Spes.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Heelas, Ventnor; Mr. Priestley, Worcester; Mr. Smythe, Sheffield; Mr. Ness, Oldham; Mr. Holcombe, London; Miss Lüttichau; Messrs. Wheatley and Co., Huddersfield; Dr. Kirkpatrick, Woodbridge; Mr. Hammond, Bristol; Dr. Paige, Hartlepool; Mr. Paine, Worthing; Mr. Sharpen, Bedford; Mr. Bond, Nottingham; Miss Yate, Bridgnorth; Mr. Parry, Bagilit; Mr. Ralfe, Gorey; Mr. Casella, London; Messrs. Moore and Co., London; Mr. Stutter, Wickhambrook; Mr. Cornish, Manchester; Mr. Davenport, London; Dr. Finch, Salisbury; Messrs. Battle and Co., London; Mr. Challand, Matlock; Mr. Alcan, Paris; Mr. Smith, Basingwold; Mr. Boyce, Shrewsbury; Mr. Eminson; Messrs. Tribe and Co., Chatham; Mr. Tresise, Burton-on-Trent; Messrs. Thompson and Co., Liverpool; Mr. Hughes, Holyhead; Messrs. Sumner and Co., Liverpool; Miss Rogers, Truro; Mr. Field, Hackney; Mr. Johns, Newport; Mr. Rideal, London; Mr. Aitken, Aberdeen; Dr. Stewart, Notts; Mr. Peat, Trebelgh; Mr. Lewis, Wigan; Mr. McKenzie, Ryde; Dr. Cox; H. L.; North of England; Medicus, Dover; M.B., Surbiton; Surgeon, Grimsby; Cretonian, London; Medicus, King's-cross; Lady Superintendent, Coventry; S. R. H.; J. A. M., Wakefield; Catholic Practice; Zeta; T., Leeds; A. B., Bradford; C. B.; Medicus, West Brighton; Matron, Bournemouth; C. H., Mile-end.

Dublin General Advertiser, Manchester Guardian, Shields Daily News, Birmingham Daily Gazette, York Herald, Liverpool Mercury, Hereford Times, Western Daily News, The Malthusian, &c., have been received.

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